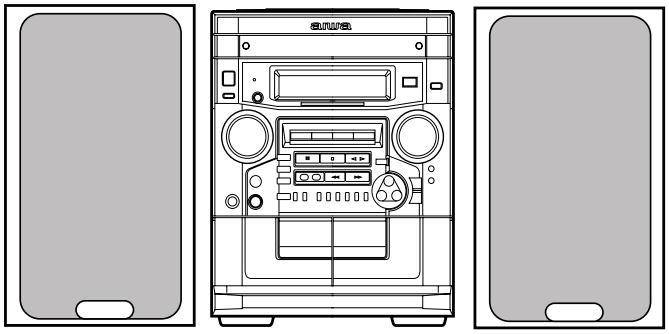
aiwa SERVICE

NSX-VC58 HR, HT



SERVICE MANUAL

COMPACT DISC
STEREO SYSTEM

BASIC TAPE MECHANISM : 2ZM-3MK2 PR4NM
BASIC CD MECHANISM : AZG-1 VZD3RDM /
AZG-1 VZD3RNDM

SYSTEM	CD CASSEIVER	SPEAKER	REMOTE CONTROLLER
NSX-VC58	CX-NVC58	SX-WNBL53	RC-ZAS07

SYSTEM	TAPE MECHANISM	CD MECHANISM
NSX-VC58 <HR>	2ZM-3MK2 PR4NM	AZG-1 VZD3RDM
NSX-VC58 <HT>		AZG-1 VZD3RNDM

• If requiring information about the CD mechanism, see Service Manual of AZG-1, (S/M Code No. 09-001-335-3NG).

aiwa

S/M Code No. 09-006-432-0R1

SPECIFICATIONS

<FM tuner section>

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity (IHF)	13.2 dBf
Antenna terminals	75 ohms (unbalanced)

<MW tuner section>

Tuning range	531 kHz to 1602 kHz (9 kHz step) 530 kHz to 1710 kHz (10 kHz step)
Usable sensitivity	350 µV/m
Antenna	Loop antenna

<SW tuner section>

Tuning range	5.730 MHz to 17.900 MHz
Antenna	Wire antenna

<Amplifier section>

Mid-high frequency amplifier	
Power output	Rated: 20 W + 20 W (8 ohms, THD 1%, 1 kHz) Reference: 25 W + 25 W (8 ohms, THD 10%, 1 kHz)
Total harmonic distortion	0.1% (10 W, 1 kHz, 8 ohms, DIN AUDIO)
Low frequency amplifier	
Power output	Rated: 60 W + 60 W (6 ohms, THD 1%, 130 Hz) Reference: 75 W + 75 W (6 ohms, THD 10%, 130 kHz)
Total harmonic distortion	0.1% (30 W, 130 Hz, 6 ohms, DIN AUDIO)
Inputs	VIDEO/AUX: 300 mV (adjustable) MIC: 1.0 mV (10 K ohms)
Outputs	SPEAKERS HIGH FREQ: accept speakers of 8 ohms or more SPEAKERS LOW FREQ: accept speakers of 6 ohms or more SURROUND SPEAKERS: accept speakers of 8 ohms to 16 ohms VIDEO OUT: 1.0 Vp-p (75 ohms) PHONES (stereo jack): accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	50 Hz – 15000 Hz
Recording system	AC bias
Heads	Deck 1 : Playback head x 1 Deck 2 : Recording/Playback head x 1, erase head x 1

<Compact disc player section>

Laser	Semiconductor laser (λ =780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	85 dB (1 kHz, 0 dB)
Harmonic distortion	0.05 % (1 kHz, 0 dB)
Video signal	NTSC/PAL color format (selectable)
Video data	MPEG 1
Audio data	MPEG 1, LAYER 2

<Speaker system SX-WNBL53>

Speaker system	3 way, Built-in subwoofer (magnetic shielded type)
Speaker units	Subwoofer: 160 mm cone type Full range: 100mm cone type Super tweeter: 20 mm ceramic type
Impedance	6 ohms/8 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	230 x 324 x 282 mm
Weight	4.8 kg

<General>

Power requirements	120 V/220-230 V/240 V AC switchable, 50/60 Hz
Power consumption	170 W
Power consumption in standby mode	If the power-economizing mode is ECO OFF: 20 W if the power-economizing mode is ECO ON or ECO AUTO: 0.9 W
Dimensions of main unit (W x H x D)	260 x 326 x 346 mm
Weight of main unit	10.0 kg

• Design and specifications are subject to change without notice.

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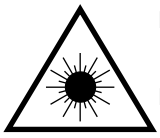
Under license from BBE Sound,Inc.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!
WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!
Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saataa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

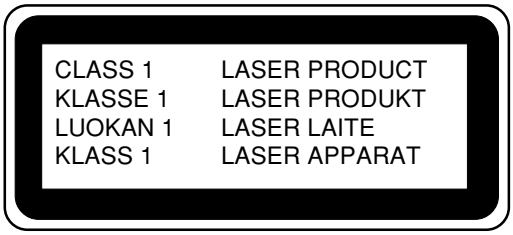
VARNING!
Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herin may result in hazardous radiation exposure.

ATTENTION
L'utillisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL
Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



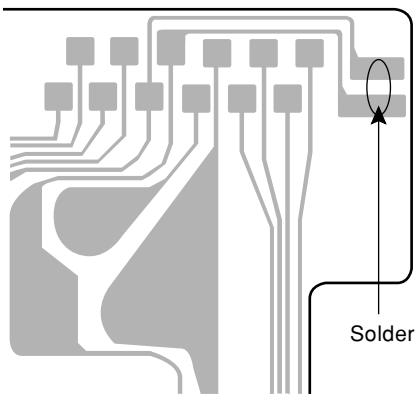
Precaution to replace Optical block

(KSS-213F)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in right figure.

PICK-UP Assy P.C.B



NOTE ON BEFORE STARTING REPAIR

1. Forced discharge of electrolytic capacitor of power supply block

When repair is going to be attempted in the set that uses relay circuit in the power supply block, electric potential is kept charged across the electrolytic capacitors (C101, 102) even though AC power cord is removed. If repair is attempted in this condition, secondary defect can occur.
In order to prevent the secondary trouble, perform the following measures before starting repair work.

Discharge procedure

① Remove the AC power cord.
② Connect a discharging resistor at an end of lead wire that has clips at both ends. Connect the other end of the lead wire to metal chassis.
③ Contact the other end of the discharging resistor to the positive (+) side (+VH) of C101. (For two seconds)
④ Contact the same end of the discharging resistor as step ③ to the negative (-) side (-VH) of C102 in the same way. (For two seconds)
⑤ Check that voltage across C101 and C102 has decreased to 1 V or less using a multimeter or an oscilloscope.

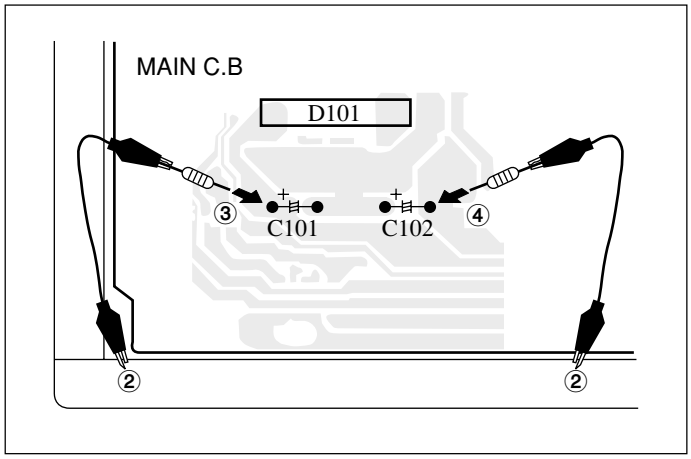


Fig-1

Select a discharging resistor referring to the following table.

Charging voltage (V) (C101, 102)	Discharging resistor (Ω)	Rated power (W)	Parts number
25-48	100	3	87-A00-247-090
49-140	220	5	87-A00-232-090

Note: The reference numbers (C101, C102) of the electrolytic capacitors can change depending on the models. Be sure to check the reference numbers of the charging capacitors on schematic diagram before starting the discharging work.

2. Check items before exchanging the MICROCOMPUTER

Be sure to check the following items before exchanging the MICROCOMPUTER. Exchange the MICROCOMPUTER after confirming that the MICROCOMPUTER is surely defective.

2-1. Regarding the HOLD terminal of the MICROCOMPUTER

When the HOLD terminal (INPUT) of the MICROCOMPUTER is "H", the MICROCOMPUTER is judged to be operating correctly. When this terminal is "L", the main power cannot be turned on. Therefore, be sure to check the terminal voltage of the HOLD terminal before exchange.
When the MICROCOMPUTER is not defective, the HOLD terminal can also go "L" when the POWER AMPLIFIER has any abnormalities that triggers the abnormality detection circuit on the MAIN C. B. that sets the HOLD terminal to "L".

- Good or no good judgement of the MICROCOMPUTER

① Turn on the AC main power.
② Confirm that the main power is turned on and the HOLD terminal of the MICROCOMPUTER keeps the "H" level or not.
③ When the HOLD terminal is "L" level, the abnormality detection circuit is judged to be working correctly and the MICROCOMPUTER is judged to be good.

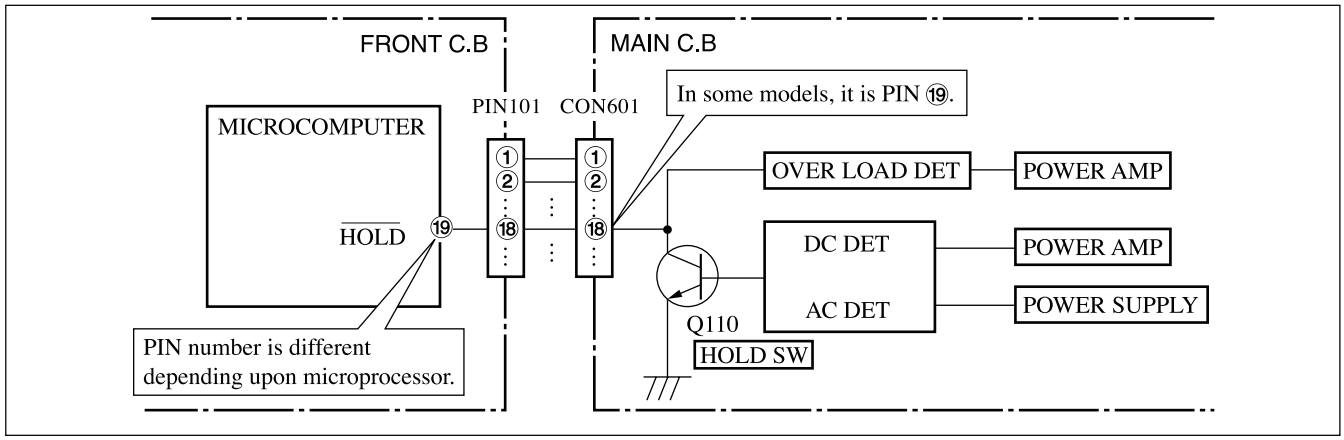


Fig-2-1

In such a case, check also if the POWER AMPLIFIER circuit or power supply circuit has any abnormalities or not.

2-2. Regarding reset

There are cases that the machine does not work correctly because the MICROCOMPUTER is not reset even though the AC power cord is re-inserted, or the software reset (pressing the STOP key + POWER key) is performed.
When the above described phenomenon occurs, it can lead to wrong judgement as if the MICROCOMPUTER is defective and to exchange the MICROCOMPUTER. In such a case, perform the forced-reset by the following procedure and check good or no good of the MICROCOMPUTER.

① Remove the AC power cord.

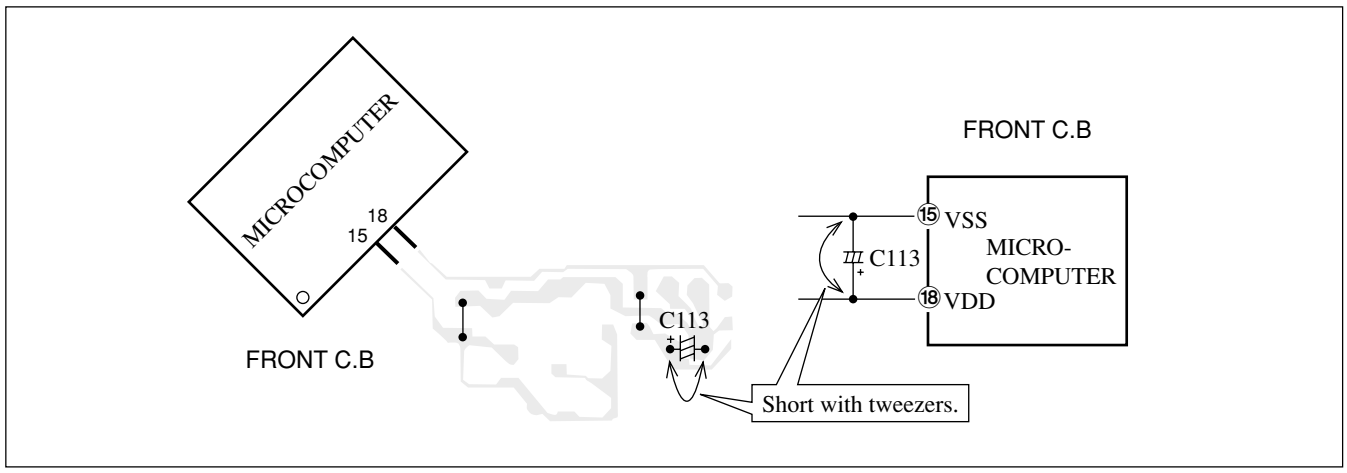


Fig-2-2

② Short both ends of the electrolytic capacitor C113 that is connected to VDD of the MICROCOMPUTER with tweezers.
③ Connect the AC power cord again. If the MICROCOMPUTER returns to the normal operation, the MICROCOMPUTER is good.

Note: The reference number or MICROCOMPUTER pin number of transistor (Q110) and electrolytic capacitor (C113) can change depending on the models. Be sure to check the reference numbers on schematic diagram before starting the discharging work.

2-3. Confirmation of soldering state of MICROCOMPUTER

Check the soldering state of the MICROCOMPUTER in addition to the above described procedures. Be sure to exchange the MICROCOMPUTER after surely confirming that the trouble is not caused by poor soldering but the MICROCOMPUTER itself.

ELETRICAL MAIN PARTS LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	8A-NH8-610-010		C-IC,LC866560W
	87-A21-018-040		C-IC,M65849BFP631D
	87-A21-396-010		IC,STK490-040
	87-A21-417-010		IC,STK490-310
	87-A20-783-040		C-IC,BA7762AFS
	87-A21-577-040		C-IC,M61506FP
	87-A20-561-040		C-IC,M65847AFP
	87-A21-629-010		IC,SPS-442-1-N
	87-070-289-040		IC,BU2092F
	87-A21-452-040		C-IC,BD3876KS2
	87-A21-560-010		IC,LA1844L-A
	87-070-127-110		IC,LC72131 D
	87-020-454-010		IC,DN6851
TRANSISTOR			
	87-026-245-080		TR,DTC114ES
	87-026-609-080		TR,KTA1266GR
	87-A30-198-080		TR,KTC3199GR
	87-026-610-080		TR,KTC3198GR
	87-A30-076-080		C-TR,2SC3052F
	87-A30-075-080		C-TR,2SA1235F
	87-A30-318-080		TR,CSA952K
	89-213-702-010		TR,2SB1370 (1.8W)
	87-A30-087-080		C-FET,2SK2158
	87-A30-107-070		C-TR,CMBT5401
	87-A30-073-080		C-TR,RT1N 141C
	87-A30-074-080		C-TR,RT1P 141C
	87-A30-269-040		C-FET,2SJ461-T1
	87-A30-106-070		C-TR,CMBT5551
	87-A30-105-080		C-TR,RT1P 441C
	87-A30-086-040		C-TR,CSD1306E
	87-A30-329-080		TR,CD1585BC
	89-327-143-080		TR,2SC2714 (0.1W)
	87-A30-072-080		C-TR,RT1P 144C
	87-A30-234-080		TR,CSC4115BC
	89-503-602-080		C-FET,2SK360E
	87-026-463-080		TR,2SA933SRS
DIODE			
	87-A40-548-090		DIODE,D3SBA20
	87-017-654-060		DIODE,GBU6J
	87-A40-547-090		DIODE,D5SBA20
	87-020-465-080		DIODE,1SS133
	87-A40-553-080		DIODE,1N4003 LES
	87-A40-764-080		ZENER,UZ10BSC
	87-A40-313-080		C-DIODE,MC 2840
	87-A40-270-080		C-DIODE,MC2838
	87-A40-269-080		C-DIODE,MC2836
	87-A40-768-080		ZENER,UZ16BSA
	87-A40-752-080		ZENER,UZ6.2BSC
	87-A40-802-080		ZENER,UZ5.1BSC
	87-A40-745-080		ZENER,UZ4.7BSA
	87-A40-747-080		ZENER,UZ5.1BSB
	87-017-149-080		ZENER,HZS6A2L
	87-A40-776-080		ZENER,UZ27BSD
MAIN C.B			
C3	87-012-368-080		C-CAP,S 0.1-50 F
C4	87-012-368-080		C-CAP,S 0.1-50 F
C21	87-016-658-000		CAP,E 4700-35 M SMG
C22	87-016-658-000		CAP,E 4700-35 M SMG
C25	87-010-406-080		CAP, ELECT 22-50
C26	87-010-406-080		CAP, ELECT 22-50
C27	87-010-406-080		CAP, ELECT 22-50
C28	87-010-406-080		CAP, ELECT 22-50
C31	87-010-263-080		CAP, ELECT 100-10V
C32	87-010-197-080		CAP, CHIP 0.01 DM
C34	87-010-260-080		CAP, ELECT 47-25V
C35	87-010-406-080		CAP, ELECT 22-50V
C36	87-010-381-080		CAP, ELECT 330-16V
C38	87-010-409-080		CAP, ELECT 220-50 M
C39	87-010-409-080		CAP, ELECT 220-50 M
C40	87-010-197-080		CAP, CHIP 0.01-25
C60	87-010-403-080		CAP, ELECT 3.3-50V
C80	87-010-401-080		CAP, ELECT 1-50V
C81	87-010-383-080		CAP, ELECT 33-25 M
C82	87-010-260-080		CAP, ELECT 47-25V
C104	87-010-196-080		CHIP CAPACITOR,0.1-25
C105	87-010-196-080		CHIP CAPACITOR,0.1-25
C111	87-010-545-080		CAP, ELECT 0.22-50V
C112	87-010-545-080		CAP, ELECT 0.22-50V
C113	87-010-545-080		CAP, ELECT 0.22-50V
C114	87-010-545-080		CAP, ELECT 0.22-50V
C115	87-010-546-080		CAP, ELECT 0.33-50V
C116	87-010-546-080		CAP, ELECT 0.33-50V
C121	87-010-546-080		CAP, ELECT 0.33-50V
C122	87-010-546-080		CAP, ELECT 0.33-50V
C163	87-010-196-080		CHIP CAPACITOR,0.1-25
C171	87-012-368-080		C-CAP,S 0.1-50 F
C172	87-012-368-080		C-CAP,S 0.1-50 F
C173	87-012-368-080		C-CAP,S 0.1-50 F
C174	87-012-368-080		C-CAP,S 0.1-50 F
C301	87-010-318-080		C-CAP,S 47P-50 CH
C302	87-010-318-080		C-CAP,S 47P-50 CH
C303	87-012-157-080		C-CAP,S 330P-50 CH
C304	87-012-157-080		C-CAP,S 330P-50 CH
C305	87-012-157-080		C-CAP,S 330P-50 CH
C306	87-012-157-080		C-CAP,S 330P-50 CH
C307	87-010-196-080		CHIP CAPACITOR,0.1-25
C309	87-010-196-080		CHIP CAPACITOR,0.1-25
C310	87-010-196-080		CHIP CAPACITOR,0.1-25
C311	87-010-198-080		CAP, CHIP 0.022-25
C312	87-010-198-080		CAP, CHIP 0.022-25
C313	87-010-178-080		CAP,CHIP S 1000P-50 K B
C314	87-010-178-080		CAP,CHIP S 1000P-50 K B
C315	87-010-178-080		CAP,CHIP S 1000P-50 K B
C316	87-010-178-080		CAP,CHIP S 1000P-50 K B
C321	87-012-142-080		CAP, S 0.33-16
C322	87-012-142-080		CAP, S 0.33-16
C324	87-010-260-080		CAP, ELECT 47-25V
C325	87-010-370-080		CAP,E 330-6.3 SME
C327	87-010-404-080		CAP, ELECT 4.7-50V
C328	87-010-404-080		CAP, ELECT 4.7-50V
C332	87-010-196-080		CHIP CAPACITOR,0.1-25
C335	87-010-401-080		CAP, ELECT 1-50V
C336	87-010-401-080		CAP, ELECT 1-50V
C337	87-010-196-080		CHIP CAPACITOR,0.1-25
C339	87-010-196-080		CHIP CAPACITOR,0.1-25
C340	87-010-196-080		CHIP CAPACITOR,0.1-25
C351	87-012-140-080		CAP 470P-50
C352	87-012-140-080		CAP 470P-50
C354	87-010-175-080		CAP 560P-50
C355	87-010-178-080		CHIP CAP 1000P-50
C356	87-010-260-080		CAP, ELECT 47-25V
C357	87-010-197-080		CAP, CHIP 0.01-25 K B
C358	87-010-183-080		C-CAP,S 2700P-50 B
C359	87-010-183-080		C-CAP,S 2700P-50 B
C360	87-010-183-080		C-CAP,S 2700P-50 B
C370	87-010-196-080		CHIP CAPACITOR,0.1-25
C373	87-016-083-080		C-CAP,S 0.15-16 RK
C374	87-016-083-080		C-CAP,S 0.15-16 RK
C378	87-010-196-080		CHIP CAPACITOR,0.1-25
C379	87-010-382-080		CAP, ELECT 22-25V
C380	87-010-382-080		CAP, ELECT 22-25V
C386	87-010-196-080		CHIP CAPACITOR,0.1-25

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C388	87-012-156-080		C-CAP,S 220P-50 CH
C391	87-010-319-080		C-CAP,S 56P-50 CH
C392	87-010-319-080		C-CAP,S 56P-50 CH
C393	87-010-319-080		C-CAP,S 56P-50 CH
C394	87-010-319-080		C-CAP,S 56P-50 CH
C501	87-010-263-080		CAP,E 100-10 M 11L SME
C502	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C503	87-012-393-080		C-CAP,S 0.22-16 K W5R CM/CB
C504	87-012-393-080		C-CAP,S 0.22-16 K W5R CM/CB
C505	87-012-393-080		C-CAP,S 0.22-16 K W5R CM/CB
C506	87-010-184-080		C-CAP,S 3300P-50 K B C2012
C507	87-010-177-080		C-CAP,S 820P-50 J SL C2012
C508	87-016-081-080		C-CAP,S 0.1-16 K R GRM
C509	87-016-081-080		C-CAP,S 0.1-16 K R GRM
C510	87-010-184-080		C-CAP,S 3300P-50 K B C2012
C511	87-010-177-080		C-CAP,S 820P-50 J SL C2012
C512	87-012-393-080		C-CAP,S 0.22-16 K W5R CM/CB
C513	87-010-544-080		CAP,E 0.1-50 M 11L SME
C514	87-010-374-080		CAP,E 47-10 M 11L SME
C529	87-010-197-080		CAP, CHIP 0.01-25 K B
C531	87-010-405-080		CAP,E 10-50 M 11L SME
C532	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C533	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C534	87-012-156-080		C-CAP,S 220P-50 J CH GRM
C535	87-010-178-080		C-CAP,S 1000P-50 K B C2012
C536	87-010-196-080		CHIP CAPACITOR,0.1-25
C538	87-010-318-080		C-CAP,S 47P-50 J CH GRM
C541	87-010-178-080		C-CAP,S 1000P-50 K B C2012
C609	87-010-181-080		CAP,CHIP S 1800P
C610	87-010-181-080		CAP,CHIP S 1800P
C611	87-010-598-080		CHIP-CAP,S 0.068-16 K R
C612	87-016-369-080		C-CAP,S 0.033-25 B K
C613	87-010-197-080		CAP, CHIP 0.01 DM
C614	87-016-081-080		C-CAP,S 0.1-16 K R
C616	87-010-184-080		CHIP CAPACITOR 3300P(K)
C617	87-012-194-080		C-CAP,S 0.047-25 Z F
C618	87-010-401-080		CAP, ELECT 1-50V
C619	87-010-263-080		CAP, ELECT 100-10V
C620	87-016-081-080		C-CAP,S 0.1-16 K R
C621	87-010-197-080		CAP, CHIP 0.01 DM
C623	87-010-401-080		CAP, ELECT 1-50V
C624	87-010-401-080		CAP, ELECT 1-50V
C626	87-A10-596-080		C-CAP,S 0.047-16 K R
C627	87-010-400-080		CAP, ELECT 0.47-50V
C628	87-010-400-080		CAP, ELECT 0.47-50V
C629	87-A10-596-080		C-CAP,S 0.047-16 K R
C630	87-010-263-080		CAP,E 100-10 M 11L SME
C631	87-010-185-080		C-CAP,S 3900P-50 B
C632	87-010-185-080		C-CAP,S 3900P-50 B
C634	87-010-196-080		CHIP CAPACITOR,0.1-25
C635	87-A10-307-080		CAP,M 0.1-50 J
C636	87-A10-307-080		CAP,M 0.1-50 J
C637	87-A10-307-080		CAP,M 0.1-50 J
C638	87-A10-307-080		CAP,M 0.1-50 J
C639	87-010-405-080		CAP, ELECT 10-50V
C643	87-010-196-080		CHIP CAPACITOR,0.1-25
C644	87-010-401-080		CAP, ELECT 1-50V
C671	87-010-322-080		C-CAP,S 100P-50 CH
C672	87-010-322-080		C-CAP,S 100P-50 CH
C673	87-010-197-080		CAP, CHIP 0.01 DM
C679	87-010-196-080		CHIP CAPACITOR,0.1-25
C680	87-010-197-080		CAP, CHIP 0.01 DM
C771	87-010-263-080		CAP, ELECT 100-10V
C772	87-010-197-080		CAP, CHIP 0.01 DM
C685	87-010-190-080		C-CAP,S 0.01-50 Z F
C779	87-010-182-080		C-CAP,S 2200P-50 K B C2012
C780	87-010-182-080		C-CAP,S 2200P-50 K B C2012
C782	87-010-197-080		CAP, CHIP 0.01-25 K B
C783	87-010-197-080		CAP, CHIP 0.01-25 K B
C784	87-010-197-080		CAP, CHIP 0.01-25 K B
C785	87-010-197-080		CAP, CHIP 0.01-25 K B
C786	87-010-197-080		CAP, CHIP 0.01-25 K B
C788	87-010-149-080		C-CAP,S 5P-50 CH
C789	87-A10-592-080		C-CAP,S 0.015-50 J B
C790	87-A10-592-080		C-CAP,S 0.015-50 J B
C791	87-010-196-080		CHIP CAPACITOR,0.1-25
C792	87-010-197-080		CAP, CHIP 0.01 DM
C793	87-010-404-080		CAP, ELECT 4.7-50V
C795	87-010-197-080		CAP, CHIP 0.01 DM
C796	87-010-197-080		CAP, CHIP 0.01 DM
C797	87-010-405-080		CAP, ELECT 10-50V
C798	87-010-197-080		CAP, CHIP 0.01 DM
C799	87-010-407-080		CAP, ELECT 33-50V
C800	87-010-194-080		C-CAP,S 0.047-25 Z F
C801	87-010-403-080		CAP, ELECT 3.3-50V
C803	87-010-198-080		CAP, CHIP 0.022
C804	87-010-263-080		CAP, ELECT 100-10V
C806	87-010-401-040		CAP,E 1-50 SME
C807	87-010-400-080		CAP, ELECT 0.47-50V
C808	87-010-401-080		CAP, ELECT 1-50V
C809	87-010-401-080		CAP, ELECT 1-50V
C810	87-010-196-080		CHIP CAPACITOR,0.1-25
C811	87-010-403-080		CAP, ELECT 3.3-50V
C812	87-010-403-080		CAP, ELECT 3.3-50V
C814	87-010-197-080		CAP, CHIP 0.01 DM
C815	87-010-400-080		CAP, ELECT 0.47-50V
C816	87-010-400-080		CAP, ELECT 0.47-50V
C821	87-010-405-080		CAP, ELECT 10-50V
C823	87-010-177-080		C-CAP,S 820P-50 SL
C824	87-010-404-080		CAP, ELECT 4.7-50V
C825	87-010-596-080		CAP, S 0.047-16
C842	87-010-197-080		CAP, CHIP 0.01-25 K B
C843	87-010-197-080		CAP, CHIP 0.01-25 K B
C844	87-010-197-080		CAP, CHIP 0.01-25 K B
C845	87-010-197-080		CAP, CHIP 0.01-25 K B
C846	87-010-197-080		CAP, CHIP 0.01-25 K B
C847	87-010-197-080		CAP, CHIP 0.01-25 K B
C848	87-010-197-080		CAP, CHIP 0.01-25 K B
C849	87-010-197-080		CAP, CHIP 0.01-25 K B
C850	87-010-260-080		CAP, ELECT 47-25V
C851	87-010-197-080		CAP, CHIP 0.01-25 K B
C852	87-010-197-080		CAP, CHIP 0.01-25 K B
C853	87-010-197-080		CAP, CHIP 0.01-25 K B
C858	87-010-196-080		CHIP CAPACITOR,0.1-25
C859	87-010-196-080		CHIP CAPACITOR,0.1-25
C860	87-010-197-080		CAP, CHIP 0.01 DM
C940	87-010-197-080		CAP, CHIP 0.01 DM
C941	87-010-314-080		C-CAP,S 22P-50 J CH GRM
C943	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C945	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C946	87-010-971-080		C-CAP,S 4700P-50 J B
C947	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C948	87-010-148-080		C-CAP,S 4P-50 J CH GRM
C952	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C953	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C954	87-010-400-080		CAP,E 0.47-50 M 11L SME
C956	87-010-263-080		CAP,E 100-10 M 11L SME
C959	87-010-196-080		CHIP CAPACITOR,0.1-25
C962	87-010-401-080		CAP,E 1-50 M 11L SME
C963	87-015-785-080		CHIP CAPACITOR, 0.1FZ-25Z
C964	87-010-854-080		C-CAP,S 560P-50 J CH
C971	87-010-381-080		CAP, ELECT 330-16V
C972	87-010-404-080		CAP, ELECT 4.7-50V
C973	87-010-197-080		CAP, CHIP 0.01 DM
C974	87-010-197-080		CAP, CHIP 0.01 DM
C979	87-010-322-080		C-CAP,S 100P-50 CH
C981	87-010-260-080		CAP, ELECT 47-25V
C982	87-010-196-080		CHIP CAPACITOR,0.1-25
C983	87-010-197-080		CAP, CHIP 0.01 DM
C984	87-010-197-080		CAP, CHIP 0.01 DM

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C987	87-010-197-080		CAP, CHIP 0.01 DM
C989	87-010-197-080		CAP, CHIP 0.01 DM
C991	87-010-312-080		C-CAP,S 15P-50 CH
C992	87-010-312-080		C-CAP,S 15P-50 CH
C993	87-010-178-080		CHIP CAP 1000P
C995	87-010-178-080		CHIP CAP 1000P
C997	87-010-196-080		CHIP CAPACITOR,0.1-25
C998	87-010-260-080		CAP, ELECT 47-25V
C999	87-A11-155-080		CAP,TC U 0.01-16 Z F
CF831	87-008-261-010		FILTER, SFE10.7MA5-A
CF832	87-008-261-010		FILTER, SFE10.7MA5-A
CN1	87-A60-996-010		CONN,13P V BLK TAC-L13X-A3
CN91	87-A60-109-010		CONN,2P V S2M-2W
CN101	87-A60-996-010		CONN,13P V BLK TAC-L13X-A3
CN301	87-099-827-010		CONN,3P V S 2M-3W
CN351	87-099-832-010		CONN,8P V S 2M-8W
CN601	87-099-719-010		CONN,30P TYK-B(X)
CN606	87-099-566-010		CONN,7P TUC-P7P-B1
CN602	87-099-194-010		CONN,6P 6216V
CNA1	8A-NF8-653-010		CONN ASSY,9P TID-A(480)
CNA2	8A-NF6-630-110		CONN ASSY,3P (VM) ANF-6
D951	87-A40-618-080		VARI-CAP,SVC348(S/T)
FB501	87-008-372-080		FLTR,EMI BL01 RN1
FC602	85-NF5-617-010		CABLE,FFC 6P-1.25
FFE831	A8-8ZA-190-030		8ZA-1 FEUNM
J101	87-A60-483-010		JACK,DIA6.3 BLK ST W/S KM
J102	87-A60-238-010		TERMINAL,SP 4P (MSC)
J604	87-A60-881-010		JACK,PIN 2P MSP 242VO5
J831	87-A60-202-010		TERMINAL,ANT 4P MSP-154V-02
J940	81-754-629-010		CONNECTOR X11 2P (UL)
L101	87-003-383-010		COIL,1UH K
L102	87-003-383-010		COIL,1UH K
L301	87-A50-049-010		COIL,TRAP 85K(COI)
L302	87-A50-049-010		COIL,TRAP 85K(COI)
L351	87-007-342-010		COIL,OSC 85K BIAS
L801	87-A50-608-010		COIL,FM DET-N(TOK)
L802	87-A91-552-010		FLTR,CFMT-450AL (AOK)
L811	87-005-847-080		COIL,2.2UH(CECS)
L832	87-005-847-080		COIL,2.2UH K CECS
L941	87-A50-022-010		COIL,ANT SW (COI) 7.96MHZ
L942	87-A50-550-010		COIL,OSC SW-2N (COI)
L943	87-A50-522-080		COIL,1MH K CEC
L944	87-A50-159-010		COIL,10MH K C2B
L952	87-A50-430-010		COIL,ANT MW(3BSW)
L953	87-A50-431-010		COIL,OSC MW(3BSW)
R161	87-A00-440-050		RES,220-1/2W J RP
R162	87-A00-440-050		RES,220-1/2W J RP
R163	87-A00-440-050		RES,220-1/2W J RP
R164	87-A00-440-050		RES,220-1/2W J RP
R790	87-010-197-080		CAP, CHIP 0.01-25 K B
R991	87-010-322-080		C-CAP,S 100P-50 CH
R993	87-010-322-080		C-CAP,S 100P-50 CH
R995	87-010-322-080		C-CAP,S 100P-50 CH
SFR351	87-A90-433-080		SFR,50K H NVZ6TLTA
SFR352	87-A90-433-080		SFR,50K H NVZ6TLTA
TC941	87-011-254-080		TRIMMER,CER 20P 4.0X4.5 ECR
TC943	87-011-253-080		TRIMMER,CER 30P 4.0X4.5 ECR
WH1	87-A90-510-010		HLDR,WIRE 2.5-9P
X991	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309

FRONT C.B

C201	87-010-322-080		C-CAP,S 100P-50 CH
C202	87-010-322-080		C-CAP,S 100P-50 CH
C203	87-010-322-080		C-CAP,S 100P-50 CH
C204	87-010-322-080		C-CAP,S 100P-50 CH
C205	87-010-322-080		C-CAP,S 100P-50 CH
C206	87-010-322-080		C-CAP,S 100P-50 CH
C207	87-010-322-080		C-CAP,S 100P-50 CH
C208	87-010-322-080		C-CAP,S 100P-50 CH
C209	87-010-322-080		C-CAP,S 100P-50 CH
C210	87-010-322-080		C-CAP,S 100P-50 CH
C211	87-010-322-080		C-CAP,S 100P-50 CH
C251	87-010-405-040		CAP,E 10-50
C253	87-010-196-080		CHIP CAPACITOR,0.1-25
C254	87-012-369-080		C-CAP,S 0.047-50F
C255	87-010-560-040		CAP,E 10-50 GAS
C256	87-010-405-040		CAP,E 10-50
C259	87-010-405-040		CAP,E 10-50
C264	87-018-209-080		CAP, CER 0.1-50V
C273	87-010-178-080		CHIP CAP 1000P
C274	87-010-178-080		CHIP CAP 1000P
C301	87-010-182-080		C-CAP,S 2200P-50 B
C302	87-010-196-080		CHIP CAPACITOR,0.1-25
C303	87-010-196-080		CHIP CAPACITOR,0.1-25
C312	87-010-498-040		CAP,E 10-16 GAS
C314	87-010-196-080		CHIP CAPACITOR,0.1-25
C315	87-010-196-080		CHIP CAPACITOR,0.1-25
C316	87-010-196-080		CHIP CAPACITOR,0.1-25
C321	87-012-393-080		C-CAP,S 0.22-16 R K
C322	87-010-400-040		CAP,E 0.47-50
C325	87-A10-189-040		CAP,E 220-10
C326	87-A10-189-040		CAP,E 220-10
C332	87-010-178-080		CHIP CAP 1000P
C334	87-010-312-080		C-CAP,S 15P-50 CH
C335	87-012-140-080		CAP 470P
C336	87-012-155-080		C-CAP 180P-50CH
C339	87-012-156-080		C-CAP,S 220P-50 CH
C340	87-010-197-080		CAP, CHIP 0.01 DM
C341	87-010-194-080		CAP, CHIP 0.047
C351	87-010-981-040		CAP,E 22-25 M SRE
C401	87-010-197-080		CAP, CHIP 0.01 DM
C451	87-010-196-080		CHIP CAPACITOR,0.1-25
C452	87-010-196-080		CHIP CAPACITOR,0.1-25
C453	87-010-196-080		CHIP CAPACITOR,0.1-25
C454	87-010-198-080		CAP, CHIP 0.022
C455	87-010-198-080		CAP, CHIP 0.022
C458	87-010-320-080		CHIP CAP 68P
C459	87-010-320-080		CHIP CAP 68P
C502	87-010-186-080		CAP,CHIP 4700P
C503	87-010-112-040		CAP,E 100-16
C504	87-010-405-040		CAP,E 10-50
C505	87-010-545-040		CAP,E 0.22-50 SME
C506	87-010-320-080		CHIP CAP 68P
C513	87-010-196-080		CHIP CAPACITOR,0.1-25
C514	87-010-196-080		CHIP CAPACITOR,0.1-25
C515	87-010-178-080		CHIP CAP 1000P
C602	87-010-322-080		C-CAP,S 100P-50 CH
C603	87-010-322-080		C-CAP,S 100P-50 CH
C604	87-010-322-080		C-CAP,S 100P-50 CH
C650	87-010-196-080		CHIP CAPACITOR,0.1-25
C699	87-010-196-080		CHIP CAPACITOR,0.1-25
CN101	87-099-720-010		CONN,30P TYK-B(P)
CN102	87-099-015-010		CONN,13P 6216V
CN301	87-A60-140-010		CONN,15P V FE
FB301	87-008-372-080		FILTER, EMI BL OIRNI
FB501	87-008-372-080		FILTER, EMI BL OIRNI
FL401	8A-NF8-602-010		FL,HNA-11MM31(ANF-8VCD)
J501	87-A61-242-010		JACK,6.3 BLK MONO W/SW V KM
L331	87-A50-408-010		COIL,OSC 5.76MHZ
LED311	87-A40-589-040		LED,SLR-56VCT31 RED
LED601	87-A40-803-010		LED,SELU1E10CXM-S LF38 BLUE
LED602	87-A40-619-080		LED,SLR-56PT-TE7-W GRN
LED603	87-A40-619-080		LED,SLR-56PT-TE7-W GRN
LED604	87-A40-619-080		LED,SLR-56PT-TE7-W GRN
LED606	87-A40-619-080		LED,SLR-56PT-TE7-W GRN
LED607	87-A40-619-080		LED,SLR-56PT-TE7-W GRN
LED608	87-A40-619-080		LED,SLR-56PT-TE7-W GRN
S401	87-A91-024-180		SW,TACT KSHG611BT
S402	87-A91-024-180		SW,TACT KSHG611BT

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
S403	87-A91-024-180		SW,TACT KSHG611BT
S404	87-A91-024-180		SW,TACT KSHG611BT
S405	87-A91-024-180		SW,TACT KSHG611BT
S406	87-A91-024-180		SW,TACT KSHG611BT
S407	87-A91-024-180		SW,TACT KSHG611BT
S408	87-A91-024-180		SW,TACT KSHG611BT
S409	87-A91-024-180		SW,TACT KSHG611BT
S410	87-A91-024-180		SW,TACT KSHG611BT
S411	87-A91-024-180		SW,TACT KSHG611BT
S412	87-A91-024-180		SW,TACT KSHG611BT
S413	87-A91-024-180		SW,TACT KSHG611BT
S414	87-A91-024-180		SW,TACT KSHG611BT
S415	87-A91-024-180		SW,TACT KSHG611BT
S416	87-A91-024-180		SW,TACT KSHG611BT
S417	87-A91-024-180		SW,TACT KSHG611BT
S418	87-A91-024-180		SW,TACT KSHG611BT
S419	87-A91-024-180		SW,TACT KSHG611BT
S420	87-A91-024-180		SW,TACT KSHG611BT
S421	87-A91-024-180		SW,TACT KSHG611BT
S422	87-A91-024-180		SW,TACT KSHG611BT
S423	87-A91-024-180		SW,TACT KSHG611BT
S425	87-A91-024-180		SW,TACT KSHG611BT
S426	87-A91-024-180		SW,TACT KSHG611BT
S428	87-A91-024-180		SW,TACT KSHG611BT
S429	87-A91-024-180		SW,TACT KSHG611BT
S432	87-A91-024-180		SW,TACT KSHG611BT
S433	87-A91-024-180		SW,TACT KSHG611BT
S434	87-A91-024-180		SW,TACT KSHG611BT
S435	87-A91-024-180		SW,TACT KSHG611BT
S436	87-A91-024-180		SW,TACT KSHG611BT
S437	87-A91-024-180		SW,TACT KSHG611BT
SW252	87-A91-555-010		SW,RTRY EC12E24504
SW253	87-A91-542-010		SW,RTRY EC12E12504

AMP 1F C.B

C101	87-010-181-080		C-CAP,S 1800P-50 B
C102	87-010-181-080		C-CAP,S 1800P-50 B
C103	87-010-545-080		CAP, ELECT 0.22-50V
C104	87-010-545-080		CAP, ELECT 0.22-50V
C107	87-010-405-080		CAP, ELECT 10-50V
C108	87-010-405-080		CAP, ELECT 10-50V
C111	87-010-179-080		C-CAP,S 1200P-50 K B GRM
C112	87-010-179-080		C-CAP,S 1200P-50 K B GRM
C113	87-010-405-080		CAP, ELECT 10-50V
C114	87-010-405-080		CAP, ELECT 10-50V
C115	87-010-866-080		CAP, ELECT 10-63
C116	87-010-866-080		CAP, ELECT 10-63
C119	87-010-197-080		CAP, CHIP 0.01 DM
C120	87-010-197-080		CAP, CHIP 0.01 DM
C133	87-010-197-080		CAP, CHIP 0.01 DM
C153	87-010-188-080		C-CAP,S 6800P-50 K B C2012
C201	87-A10-300-080		CAP,M 0.027-50 J
C202	87-A10-300-080		CAP,M 0.027-50 J
C203	87-A10-300-080		CAP,M 0.027-50 J
C204	87-A10-300-080		CAP,M 0.027-50 J
C205	87-010-180-080		C-CER 1500P
C206	87-010-180-080		C-CER 1500P
C207	87-010-401-080		CAP, ELECT 1-50V
C208	87-010-401-080		CAP, ELECT 1-50V
C209	87-010-187-080		CAP CHIP S5600P
C210	87-010-187-080		CAP CHIP S5600P
C211	87-010-403-080		CAP, ELECT 3.3-50V
C212	87-010-403-080		CAP, ELECT 3.3-50V
C215	87-010-179-080		C-CAP,S 1200P-50 K B GRM
C216	87-010-179-080		C-CAP,S 1200P-50 K B GRM
C217	87-010-405-080		CAP, ELECT 10-50V
C218	87-010-405-080		CAP, ELECT 10-50V
C221	87-010-405-080		CAP, ELECT 10-50V
C222	87-010-405-080		CAP, ELECT 10-50V
C223	87-010-197-080		CAP, CHIP 0.01 DM
C224	87-010-197-080		CAP, CHIP 0.01 DM
C251	87-010-196-080		CHIP CAPACITOR,0.1-25
C252	87-010-196-080		CHIP CAPACITOR,0.1-25
C253	87-010-196-080		CHIP CAPACITOR,0.1-25
C254	87-010-196-080		CHIP CAPACITOR,0.1-25
C259	87-010-197-080		CAP, CHIP 0.01 DM
C260	87-010-197-080		CAP, CHIP 0.01 DM
C401	87-010-260-080		CAP, ELECT 47-25
CN101	87-A61-011-010		CONN,13P H BLK TAC-L13P-A3
CN102	87-A61-011-010		CONN,13P H BLK TAC-L13P-A3
CNA101	8A-NF8-656-010		CONN ASSY,5P TID-A 400
J201	87-A61-148-010		JACK,PIN 4P R/W BLUE
L251	87-003-383-010		COIL,1UH K
L252	87-003-383-010		COIL,1UH K
R129	87-A00-257-080		RES,M/F 0.15-1W J
R130	87-A00-257-080		RES,M/F 0.15-1W J
R231	87-A00-258-080		RES,M/F 0.22-1W J
R232	87-A00-258-080		RES,M/F 0.22-1W J
WH101	87-A90-459-010		HLDR,WIRE 2.5-5P

KEY CON C.B

C551	87-A10-060-080		C-CAP,S 0.18-16 KB
C552	87-A10-060-080		C-CAP,S 0.18-16 KB
C553	87-012-154-080		C-CAP,S 150P-50
C554	87-012-154-080		C-CAP,S 150P-50
C555	87-012-145-080		C-CAP,S 270P-50
C556	87-012-145-080		C-CAP,S 270P-50
C557	87-010-183-080		C-CAP,S 2700P-50 B
C559	87-010-196-080		CHIP CAPACITOR,0.1-25
C560	87-010-177-080		C-CAP,S 820P-50 SL
C561	87-010-177-080		C-CAP,S 820P-50 SL
C562	87-010-196-080		CHIP CAPACITOR,0.1-25
C563	87-010-374-080		CAP, ELECT 47-10V
C564	87-010-196-080		CHIP CAPACITOR,0.1-25
C565	87-010-263-080		CAP, ELECT 100-10V
C567	87-010-183-080		C-CAP,S 2700P-50 B
C571	87-016-460-080		C-CAP,S 0.22-16 K B
C572	87-016-460-080		C-CAP,S 0.22-16 K B
C573	87-016-460-080		C-CAP,S 0.22-16 K B
C577	87-010-196-080		CHIP CAPACITOR,0.1-25
CN551	87-A60-689-010		CONN,7P H GRY TUC-P07X-C1

VM C.B

CNA3	87-049-919-010		CONN,3P V WHT EH

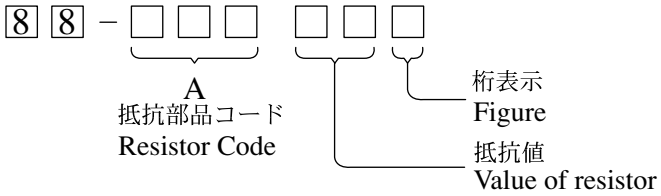
PT C.B

C1	87-010-387-080		CAP,E 470-25 SME
C4	87-A11-148-080		CAP,TC U 0.1-50 Z F
C5	87-A11-148-080		CAP,TC U 0.1-50 Z F
C6	87-016-051-000		CAP,E 2200-35 M SMG
C7	87-016-051-000		CAP,E 2200-35 M SMG
C8	87-A11-148-080		CAP,TC U 0.1-50 Z F
C9	87-A11-148-080		CAP,TC U 0.1-50 Z F
C10	87-A11-148-080		CAP,TC U 0.1-50 Z F
C11	87-A11-148-080		CAP,TC U 0.1-50 Z F
C12	87-016-520-000		CAP,E 3300-65 M SMG
C13	87-016-520-000		CAP,E 3300-65 M SMG
C14	87-A11-148-080		CAP,TC U 0.1-50 Z F
C15	87-A11-148-080		CAP,TC U 0.1-50 Z F
C16	87-010-403-080		CAP, ELECT 3.3-50V
⚠ C91	87-A10-479-080		CAP, CER 2200P-250 M E KH
⚠ C92	87-A10-479-080		CAP, CER 2200P-250 M E KH
CN1	87-A61-110-010		CONN,9P V TID-A
CN2	87-A61-108-010		CONN,5P V TID-A
⚠ PT1	8A-NH8-606-010		PT,ANF-8 HR
⚠ PT2	8A-NF8-673-010		PT,SUB ANF-8 (H) KAMI

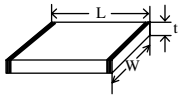
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
⚠ RY1	87-A91-339-010		RELAY,AC DC12V G5PA-2
⚠ S1	87-A90-165-010		SW,SL 1-2-3 SWS2301
⚠ T1	87-A60-317-010		TERMINAL, 1P MSC
⚠ T2	87-A60-317-010		TERMINAL, 1P MSC
DECK C.B			
CON105	87-099-756-010		CONN,15P 9604 S F
SFR1	87-024-581-010		SFR,3.3K DIA 6H
SOL1	82-ZM1-618-410		SOL ASSY,27
SOL2	82-ZM1-618-410		SOL ASSY,27
SW1	87-A90-248-010		SW,MICRO ESE11SH2CXQ
SW2	87-A90-248-010		SW,MICRO ESE11SH2CXQ
SW3	87-A90-248-010		SW,MICRO ESE11SH2CXQ
SW4	87-036-110-010		SW,MICRO SPPB62
SW5	87-036-110-010		SW,MICRO SPPB62
SW6	87-036-110-010		SW,MICRO SPPB62
SW8	87-A90-248-010		SW,MICRO ESE11SH2CXQ
SW9	87-A90-248-010		SW,MICRO ESE11SH2CXQ
W1	82-ZM3-601-010		RBN,CORD,4P-75
HEAD-1 C.B			
	85-ZM3-602-010		PWB,FLEX A
HEAD-2 C.B			
	85-ZM3-602-010		PWB,FLEX A
CON351	87-NF6-616-010		CONN ASSY,8P-RPB

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

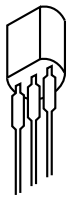
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗
Chip resistor

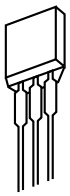
容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm) 外形／Form	L	W	t	抵抗コード Resistor Code : A
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION



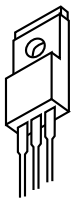
E C B

CD1585BC
CSA952K
CSC4115BC
KTA1266GR
KTC3198GR



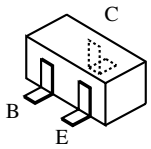
E C B

DTC114ES
KTC3199GR

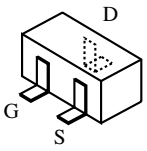


B C E

2SB1370



2SA1235F
2SA933SRS
2SC2714
2SC3052F
CMBT5401
CMBT5551
CSD1306E
RT1N141C
RT1P141C
RT1P144C
RT1P441C

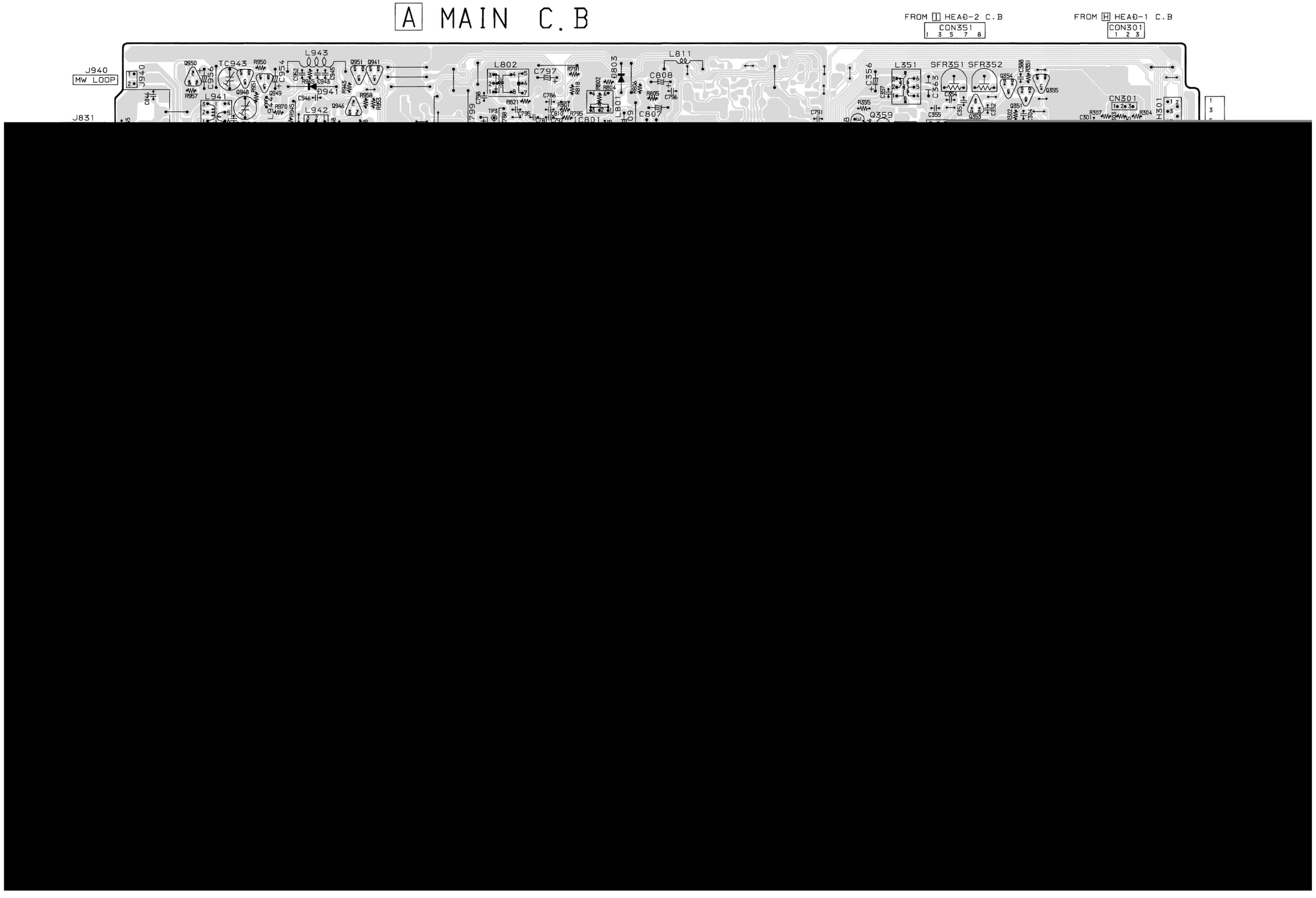


2SK2158
2SJ461-T1
2SK360E

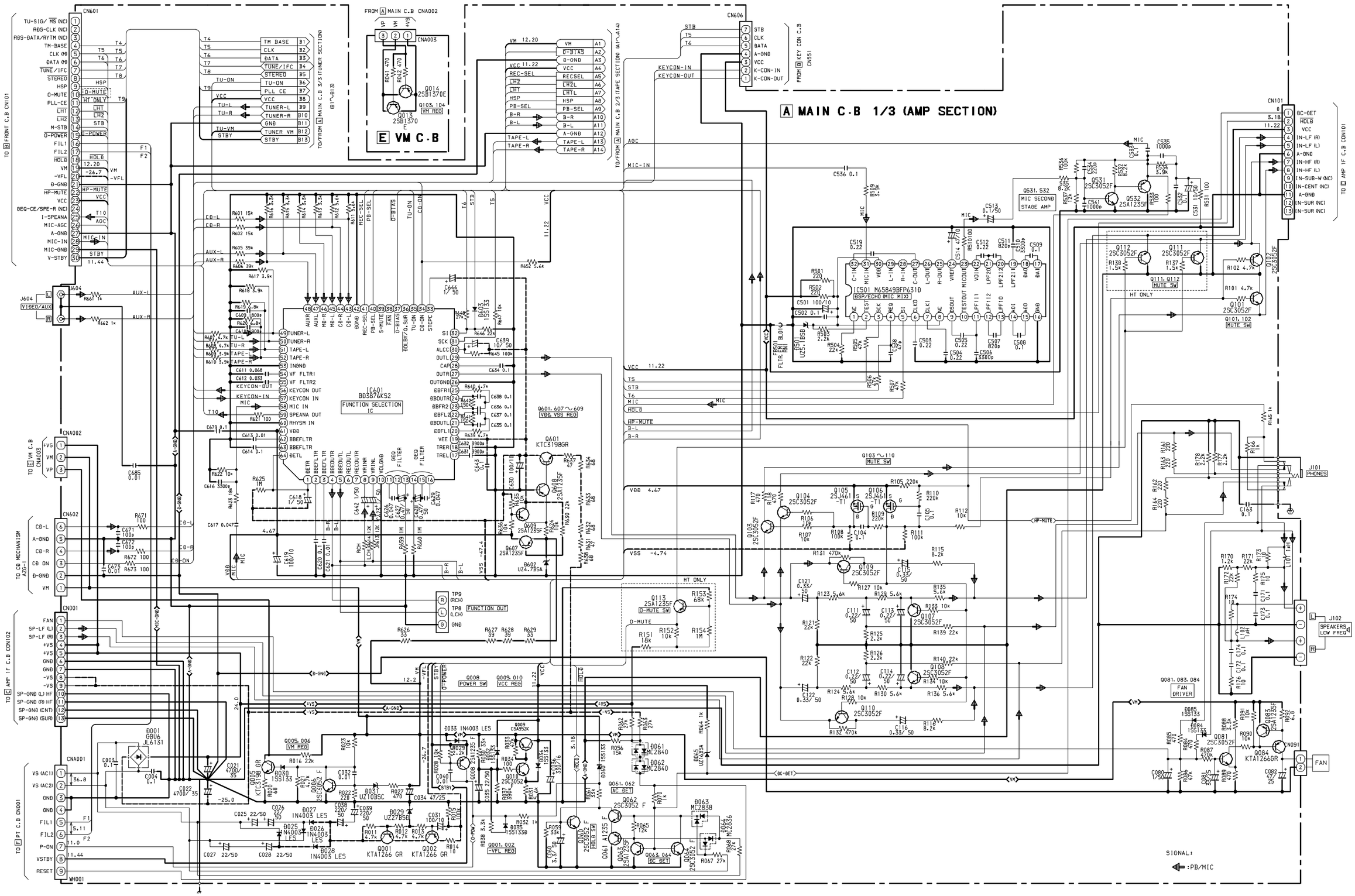
32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

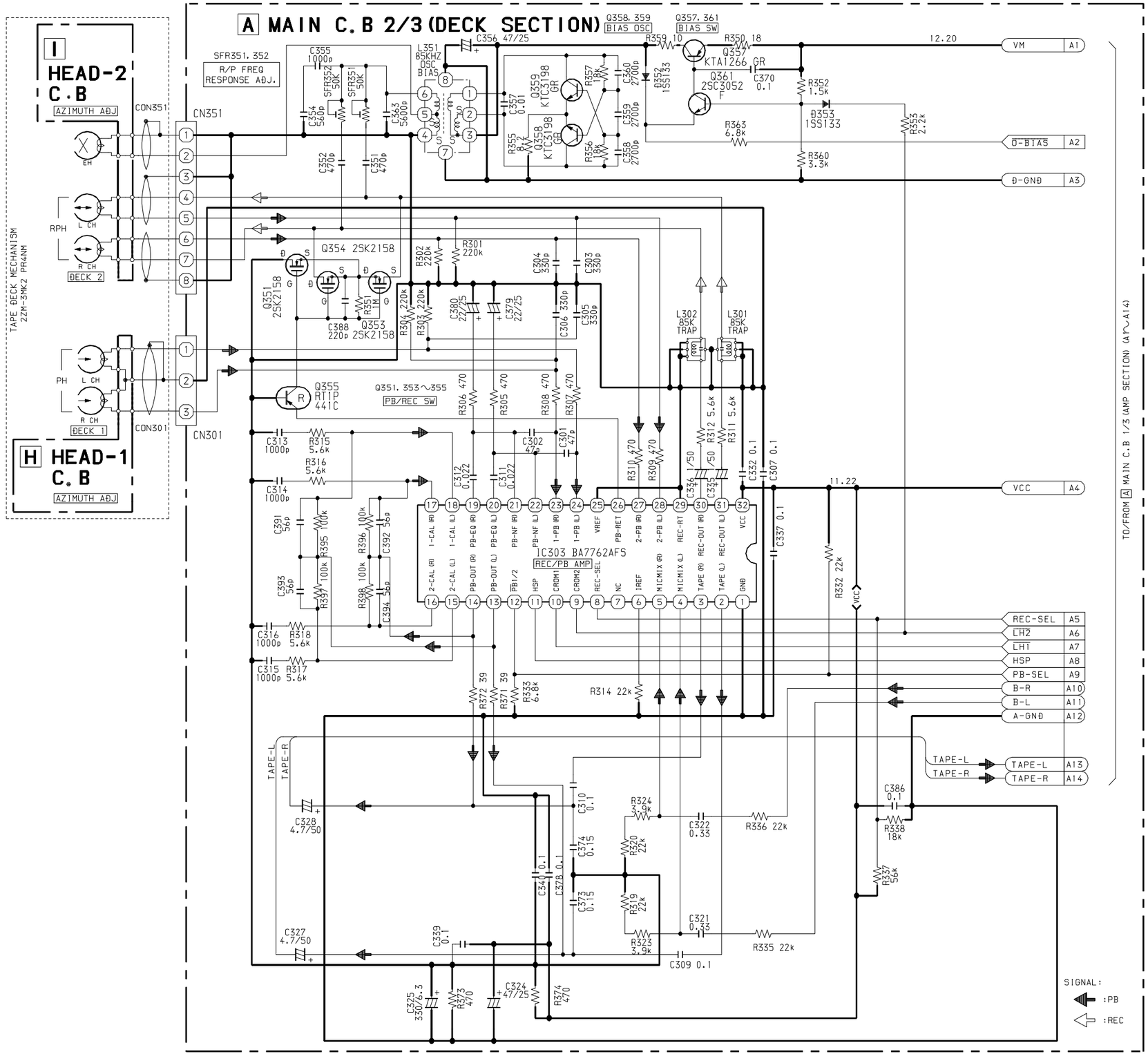
A B C D E F G H I J K L M N O P Q R S T U

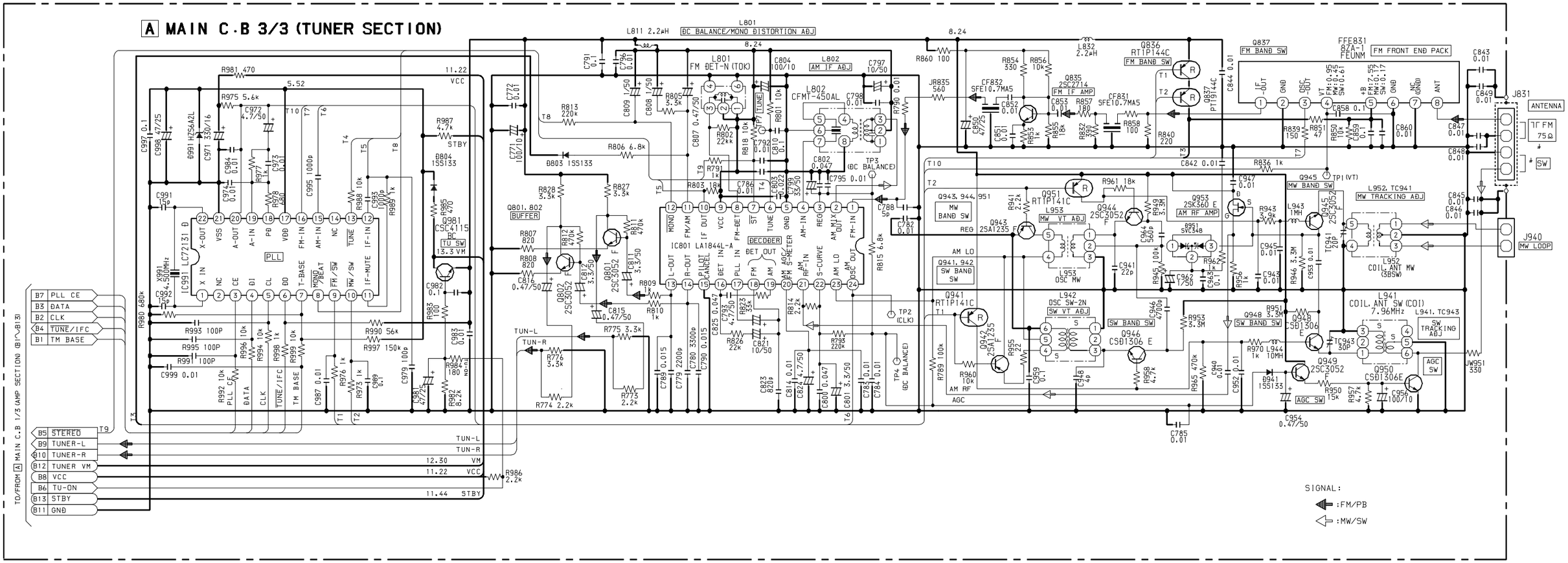
A MAIN C.B



SCHEMATIC DIAGRAM – 1 (MAIN 1 / 3 : AMP / VM)



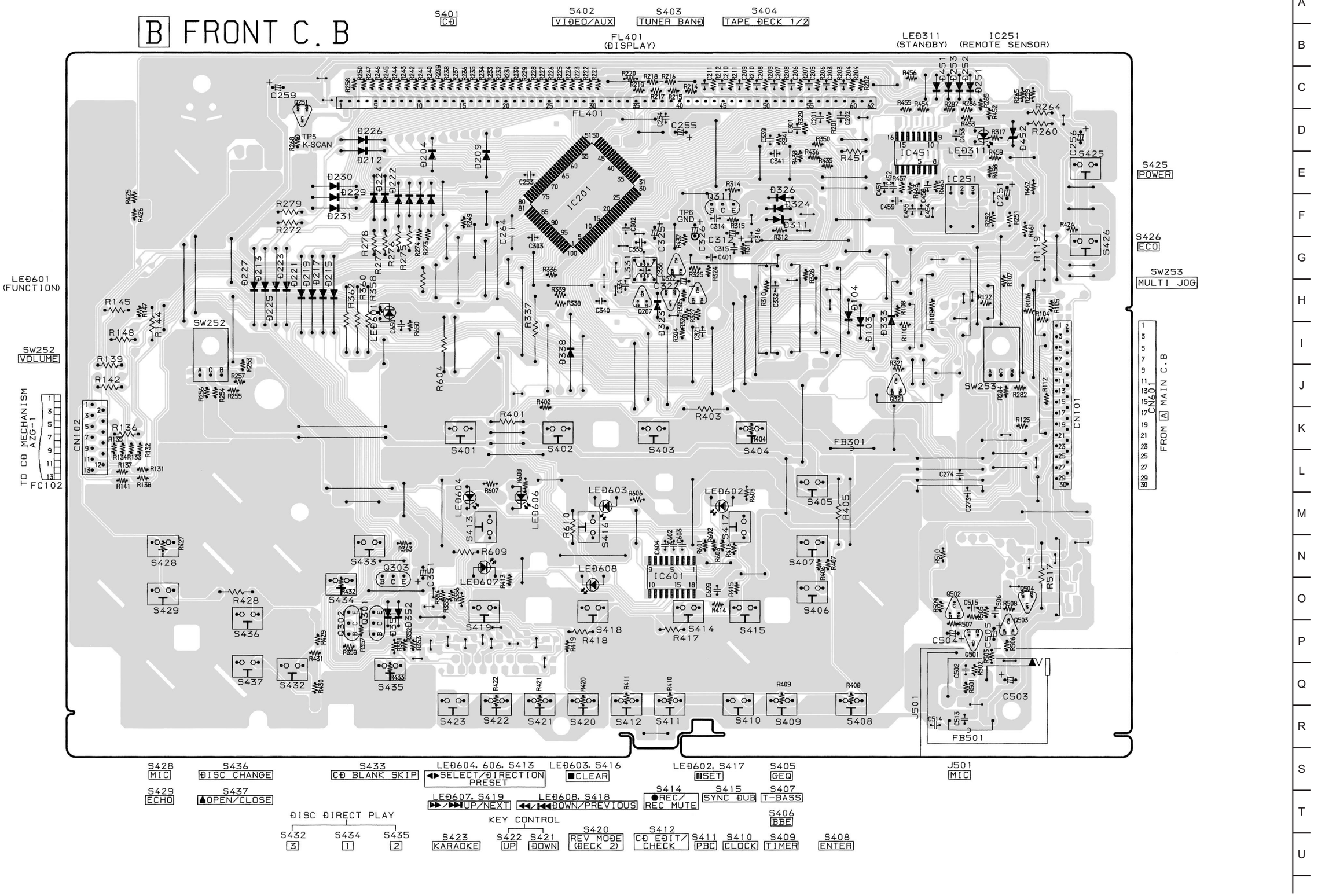

A MAIN C.B 2/3 (DECK SECTION)
I HEAD-2 C.B
AZIMUTH ADJ
H HEAD-1 C.B
AZIMUTH ADJ
TAPE DECK MECHANISM 22M-SMK2 PR4NM
DECK 2
DECK 1
CON351
CON301
CN351
CN301
SFR351. 352
R/P FREQ RESPONSE ADJ.
Q358. 359 BIAS OSC
Q357. 361 BIAS SW
IC303 BA7762AF5
REC/PB AMP
Q354 2SK2158
Q353 2SK2158
Q351. 353~355
PB/REC SW
L302 85K TRAP
L301 85K TRAP
VM A1
Ð-BIAS A2
Ð-GNÐ A3
VCC A4
REC-SEL A5
LH2 A6
LH1 A7
HSP A8
PB-SEL A9
B-R A10
B-L A11
A-GNÐ A12
TAPE-L A13
TAPE-R A14
TO/FROM A MAIN C.B 1/3 (AMP SECTION) (A1~A14)
SIGNAL:
:PB
:REC


A MAIN C.B 3/3 (TUNER SECTION)
IC801 LA1844L-A
LC72131 D
CSC4115 BC
CFMT-450AL
CFT-450AL
CF832 SFE10.7MA5
CF831 SFE10.7MA5
FFE831 87A-1 FEUNM
FM FRONT END PACK
ANTENNA
75Ω
SW
MW LOOP
L801 FM DET-N (TOK)
L802 AM IF ADJ
L941 COIL, ANT SW (COI) 7.96MHz
L952 COIL ANT MW (385W)
L942 OSC SW-2N
L953 OSC MW
MW VT ADJ
MW TRACKING ADJ
SW TRACKING ADJ
SW VT ADJ
AGC SW
FM BAND SW
MW BAND SW
SW BAND SW
AM RF AMP
FM IF AMP
BUFFER
DECODER
PLL
TUN-L
TUN-R
VCC
STBY
VM
PLL CE
DATA
CLK
TUNE/IFC
TM BASE
STEREO
TUNER-L
TUNER-R
TUNER VM
TU-ON
GND
TO/FROM A MAIN C.B 1/3 (AMP SECTION) (B1~B13)
SIGNAL:
:FM/PB
:MW/SW

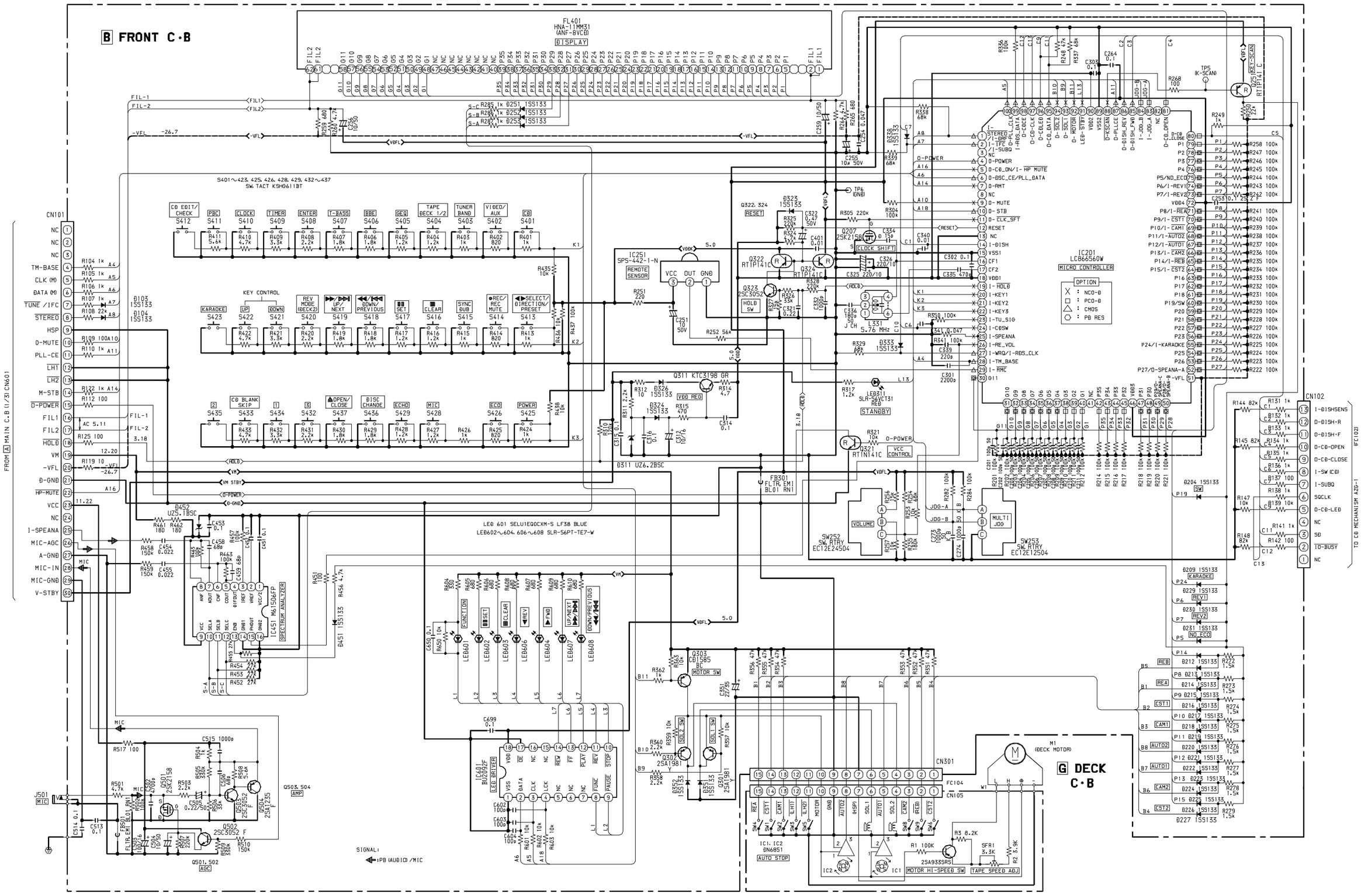
32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

A B C D E F G H I J K L M N O P Q R S T U

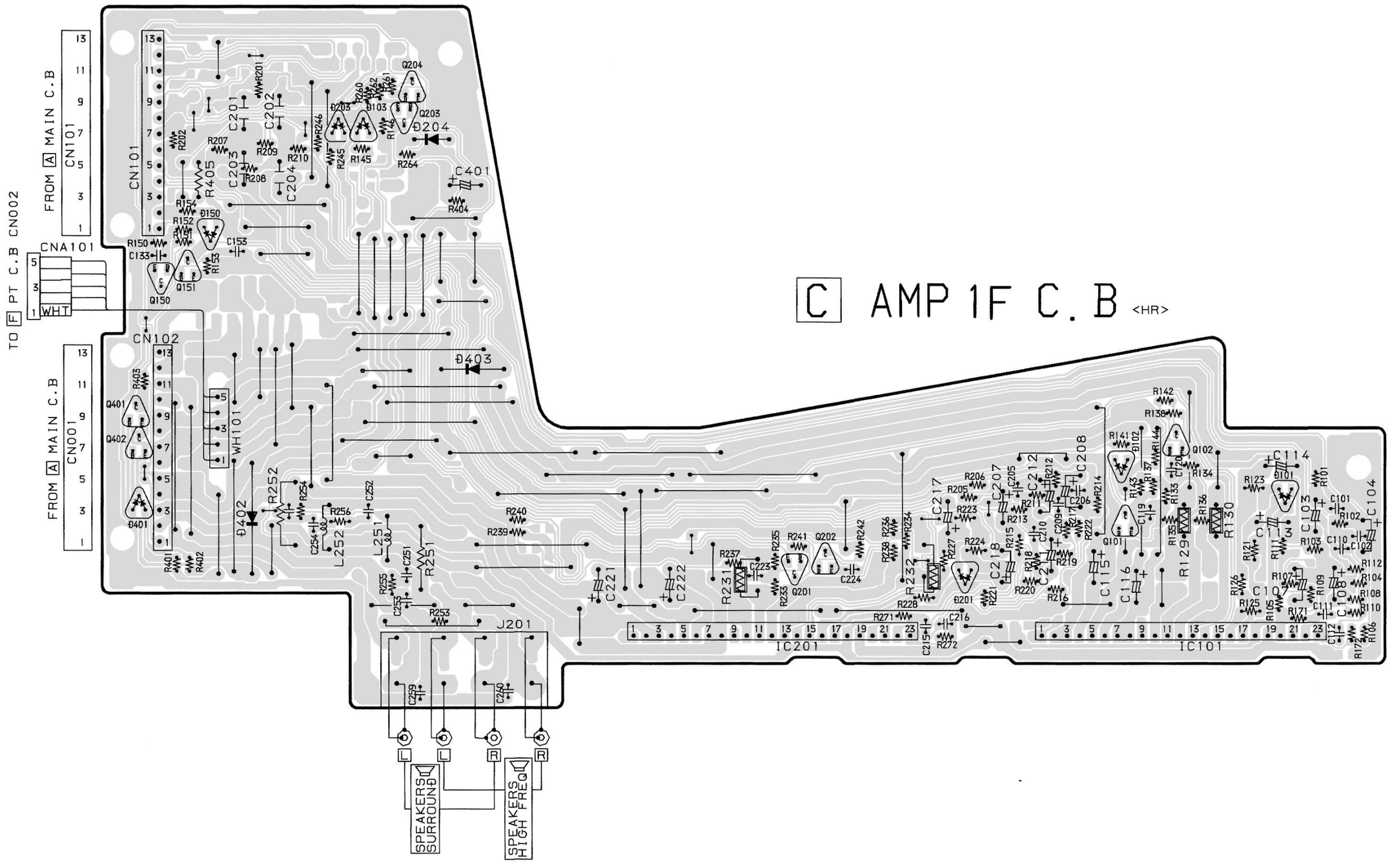
B FRONT C.B



SCHEMATIC DIAGRAM – 4 (FRONT)



C AMP 1F C. B <HR>


FROM A MAIN C.B
CN101
TO F PT C.B CN002
CNA101
WHT
CN102
FROM A MAIN C.B
CN001
WH101
J201
SPEAKERS SURROUND
SPEAKERS HIGH FREQ
IC201
IC101
Q204
Q203
Q150
Q151
Q401
Q402
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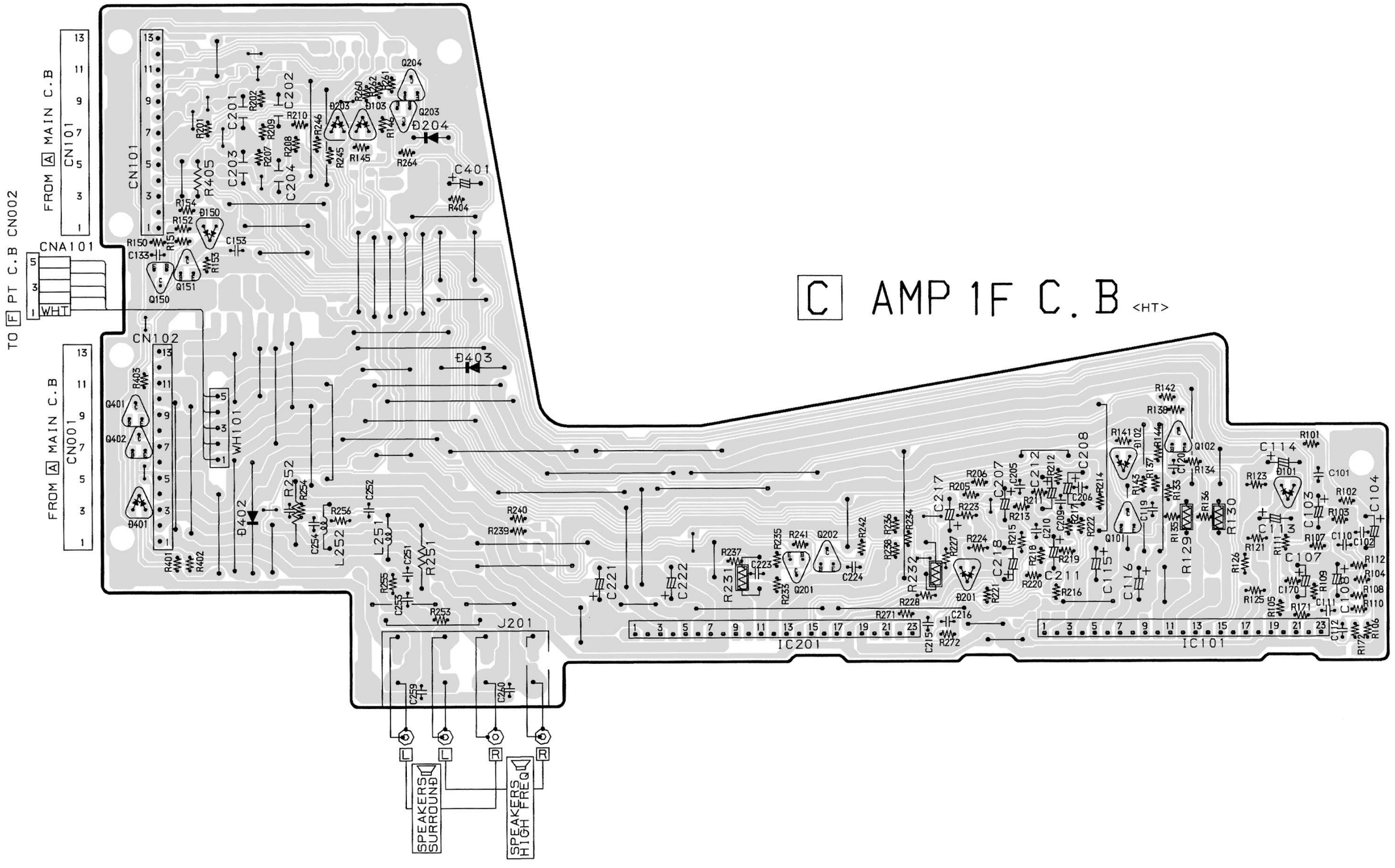
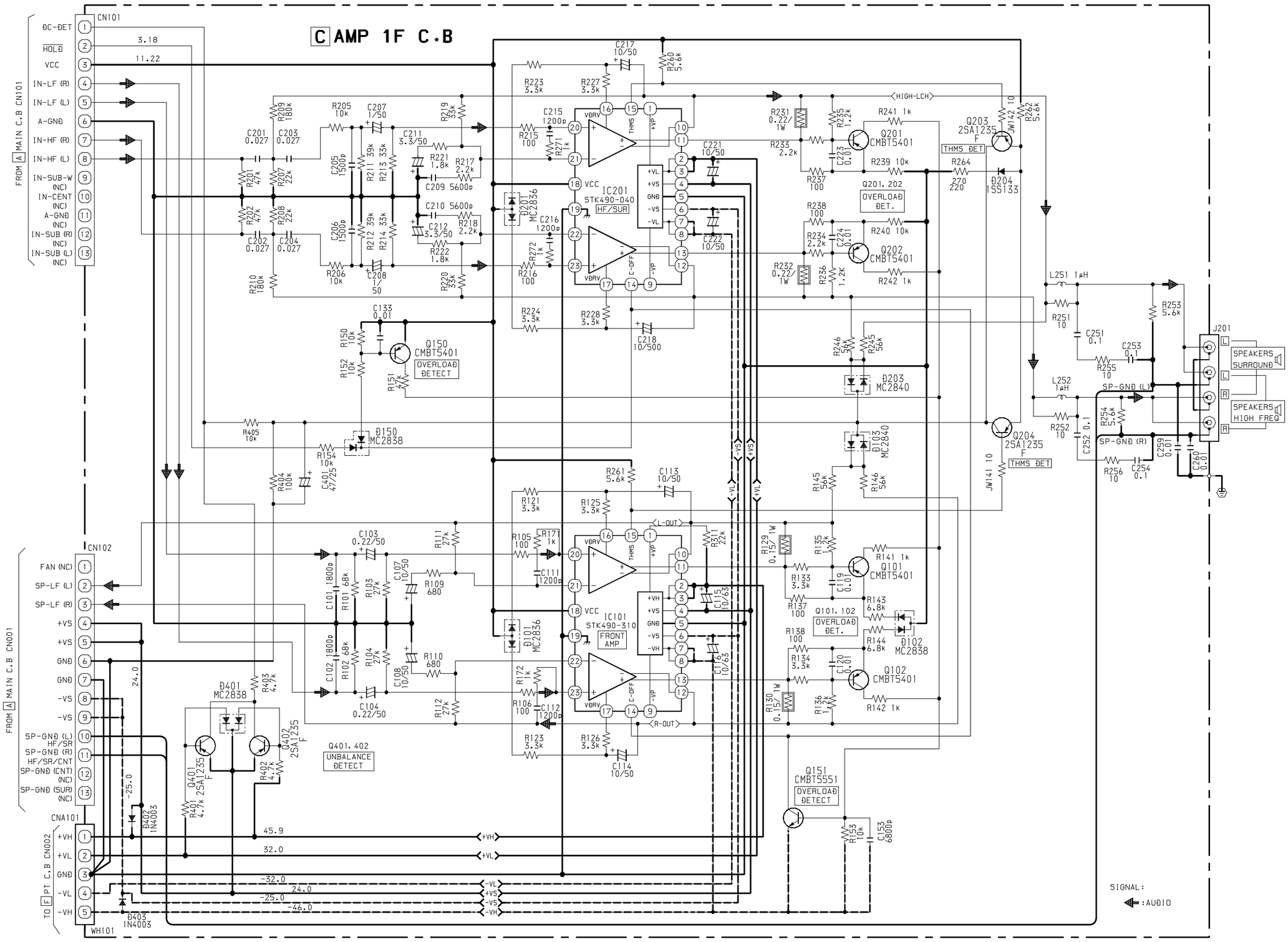
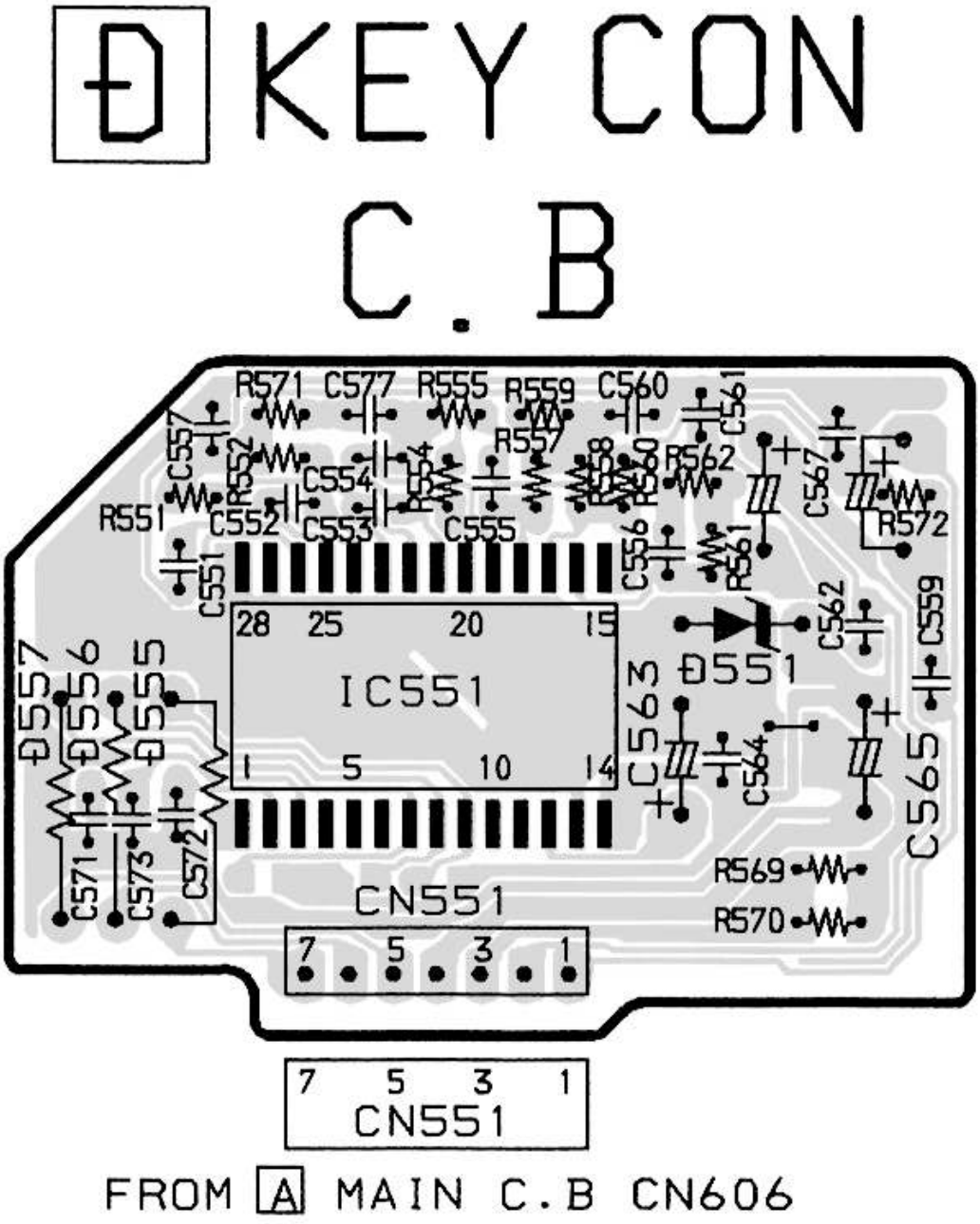
C999
C1000

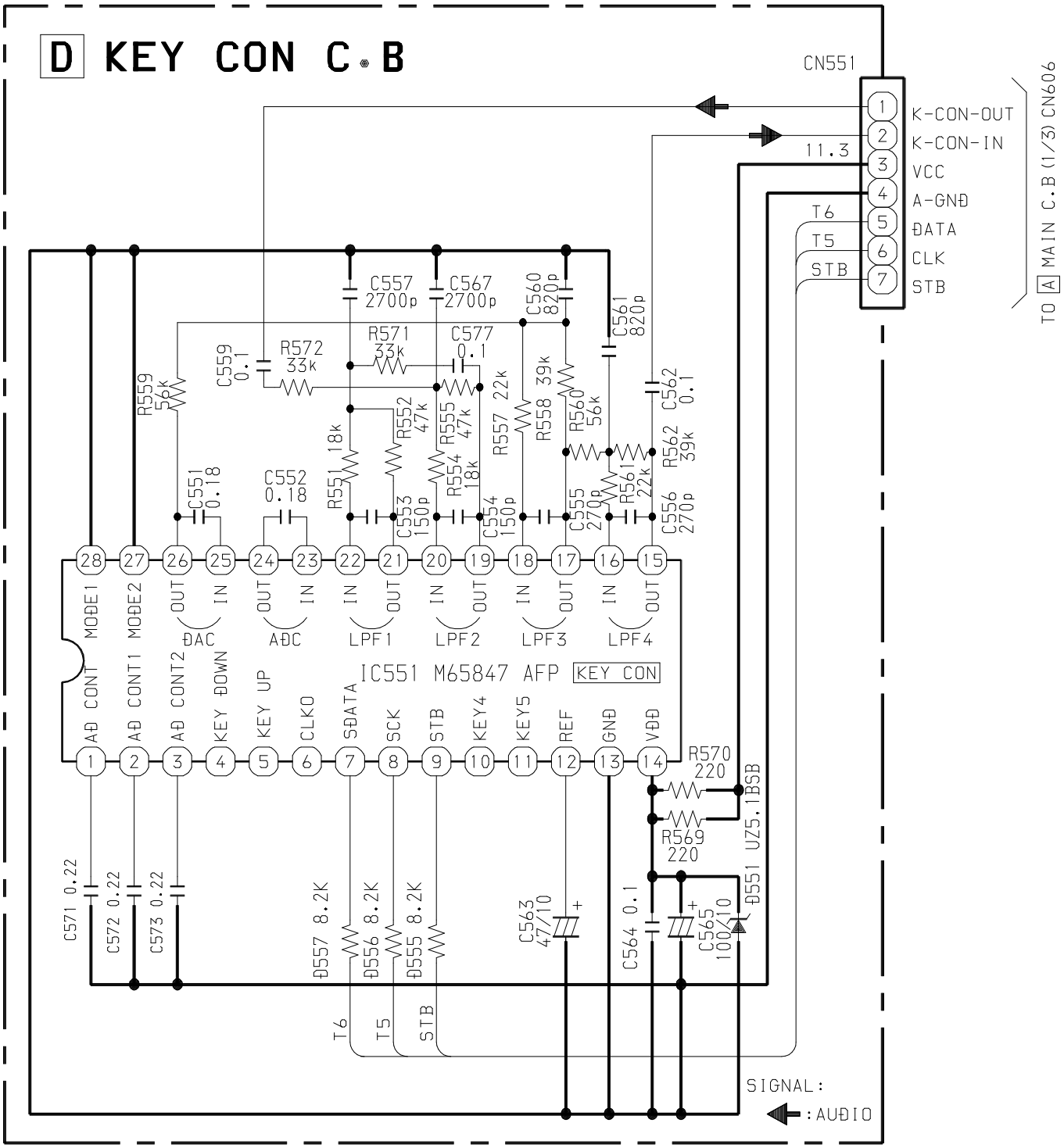
C AMP 1F C.B <HT>

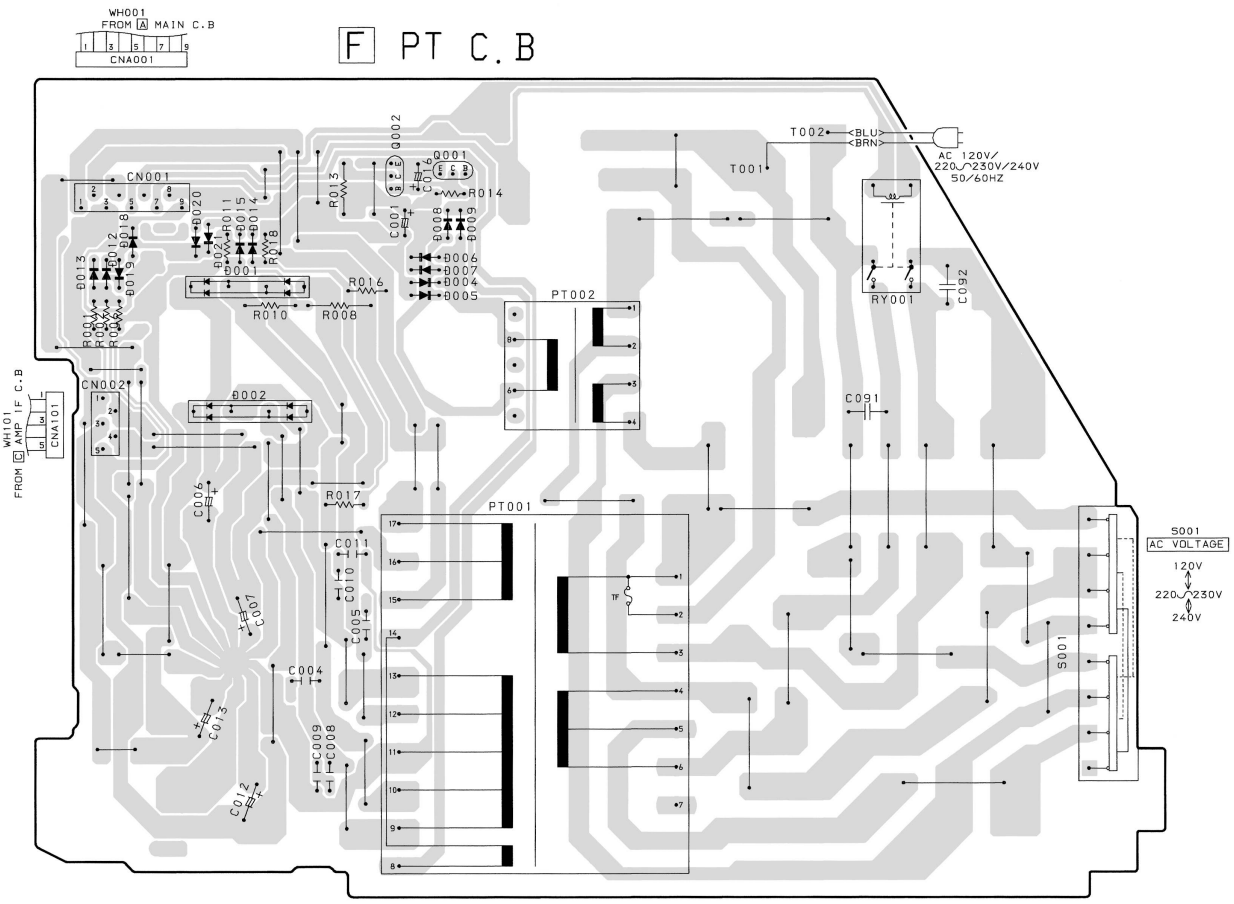

FROM A MAIN C.B CN101
TO F PT C.B CN002
CNA101
WHT
CN102
FROM A MAIN C.B CN001
WH101
SPEAKERS SURROUND
SPEAKERS HIGH FREQ
J201
IC201
IC101
Q204
Q203
Q150
Q151
Q401
Q402
Q201
Q102
Q101
D204
D403
D402
D401
D150
C401
L251
L252
R405
R404
R251
R252
R130
R129

SCHEMATIC DIAGRAM – 5 (AMP 1F)

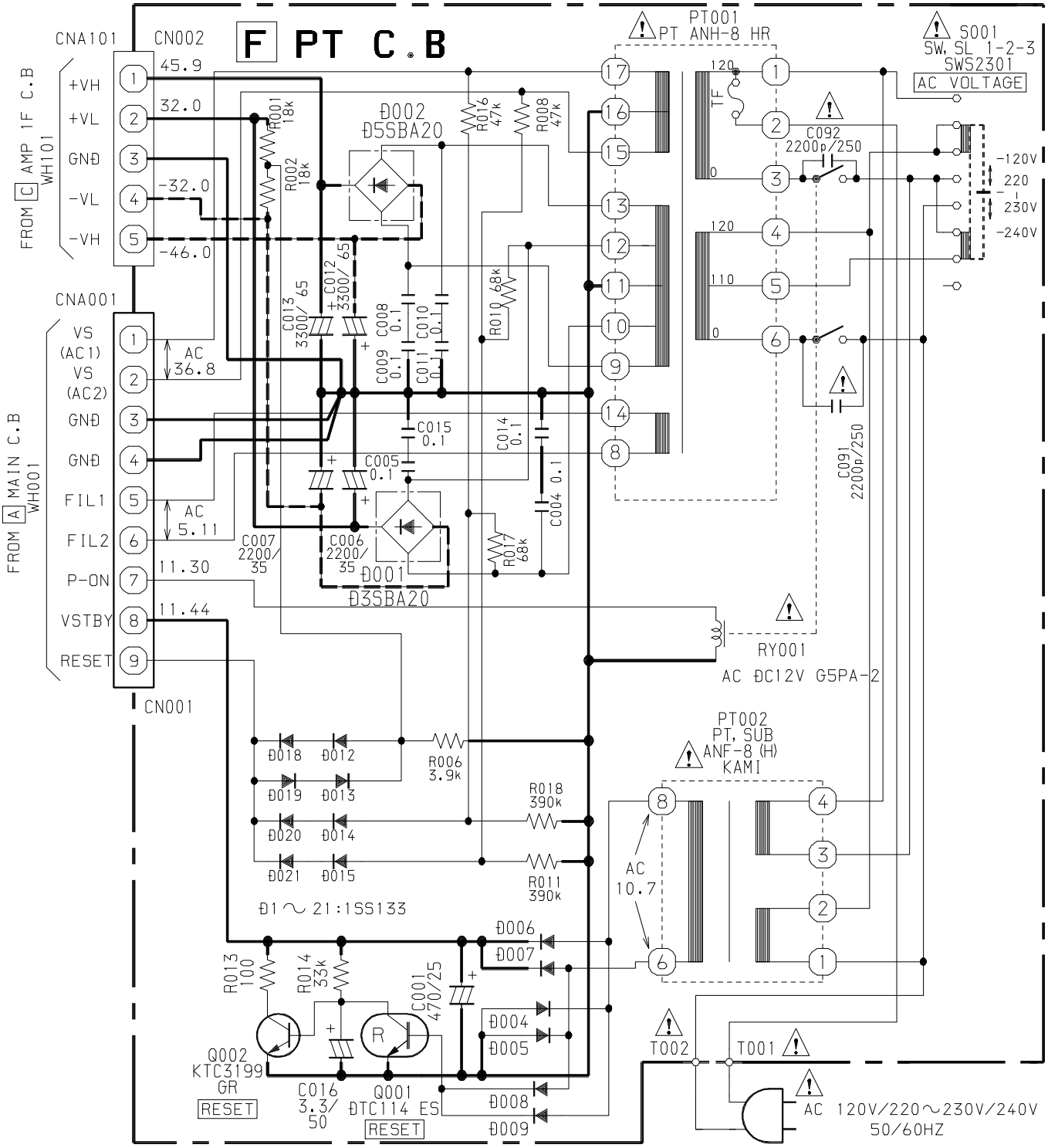


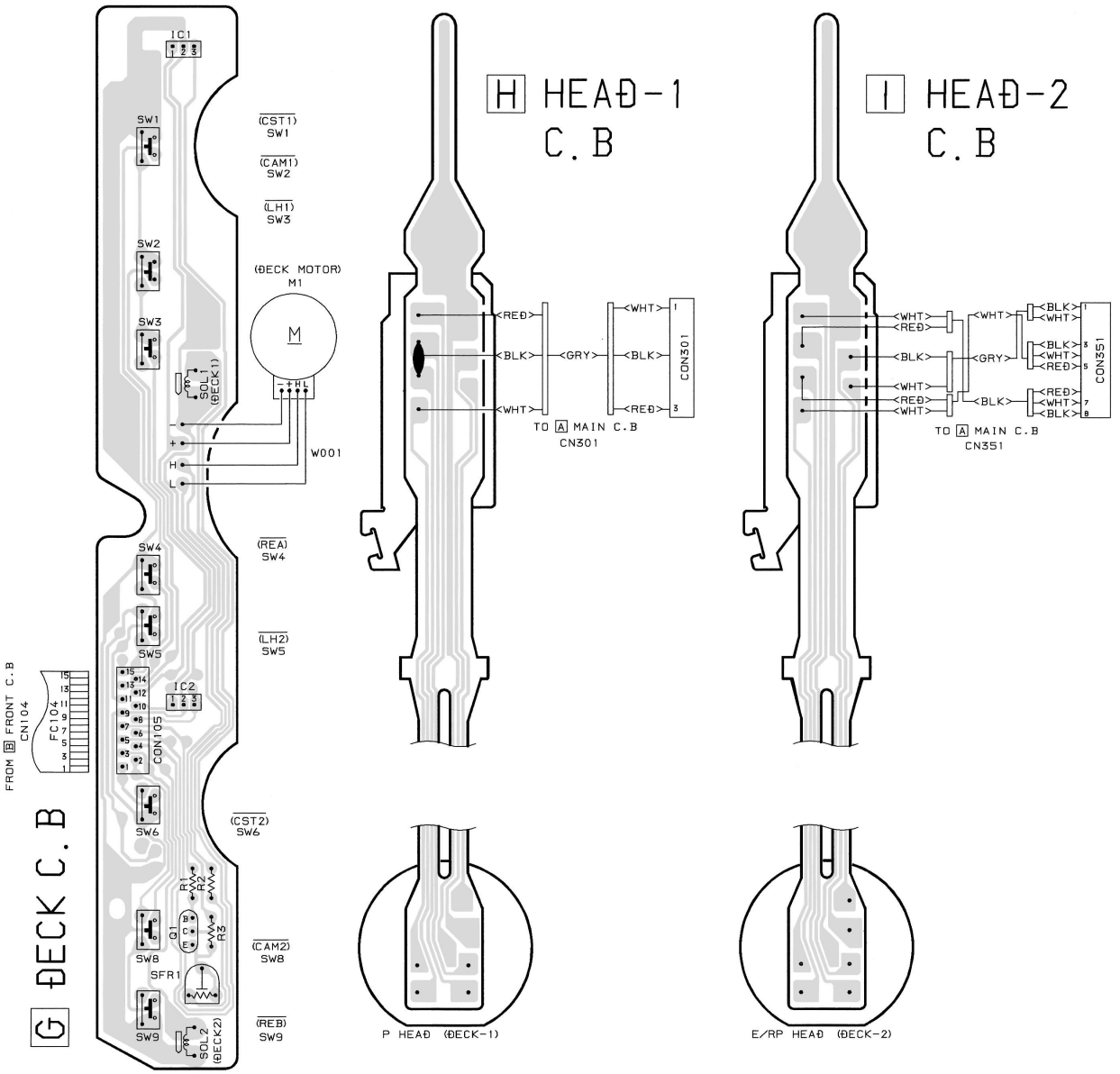

Đ KEY CON
C.B
R571
C577
R555
R559
C560
C561
C557
R552
C554
R557
R562
C567
R572
R551
C552
C553
C555
C556
R561
C551
28 25 20 15
IC551
1 5 10 14
D557
D556
D555
D551
C562
C559
C563
C564
C565
C571
C573
C572
CN551
7 5 3 1
R569
R570
7 5 3 1
CN551
FROM A MAIN C.B CN606


D KEY CON C.B
CN551
1 K-CON-OUT
2 K-CON-IN
3 VCC
4 A-GND
5 DATA
6 CLK
7 STB
11.3
T6
T5
STB
TO A MAIN C.B (1/3) CN606
IC551 M65847 AFP KEY CON
MODE1
MODE2
OUT
IN
DAC
ADC
LPF1
LPF2
LPF3
LPF4
AD CONT
AD CONT1
AD CONT2
KEY DOWN
KEY UP
CLKO
SDATA
SCK
STB
KEY4
KEY5
REF
GND
VDD
C557 2700p
C567 2700p
C560 820p
C561 820p
C559 0.1
R572 33k
R571 33k
C577 0.1
R559 56k
R552 47k
R555 47k
R557 22k
R558 39k
R560 56k
C562 0.1
R562 39k
R551 18k
R554 18k
C551 0.18
C552 0.18
C553 150p
C554 150p
C555 270p
R561 22k
C556 270p
R570 220
R569 220
D551 UZ5.1BSB
C571 0.22
C572 0.22
C573 0.22
D557 8.2K
D556 8.2K
D555 8.2K
C563 47/10
C564 0.1
C565 100/10
SIGNAL:
:AUDIO


F PT C.B
WH001
FROM A MAIN C.B
CNA001
CN001
CN002
WH101
FROM C AMP I/F C.B
CNA101
T001
T002
<BLU>
<BRN>
AC 120V/
220~230V/240V
50/60HZ
RY001
PT001
PT002
S001
AC VOLTAGE
120V
220~230V
240V
D001
D002
Q001
R001
R002
R003
R004
R008
R010
R013
R014
R016
R017
R018
C001
C004
C005
C006
C007
C008
C009
C010
C011
C012
C013
C016
C091
C092

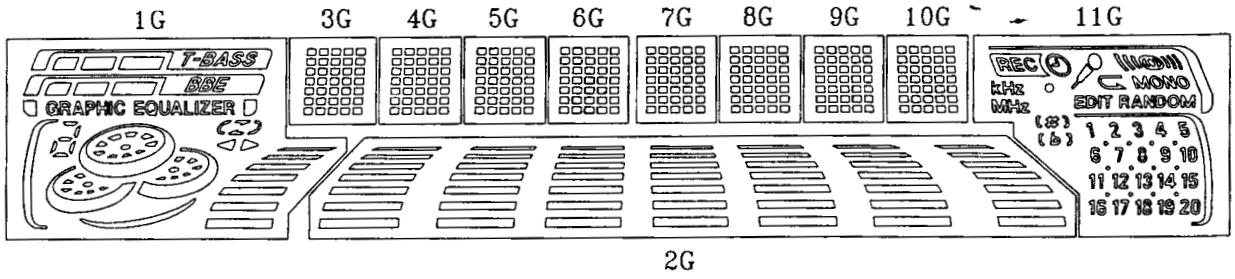
SCHEMATIC DIAGRAM – 7 (PT)

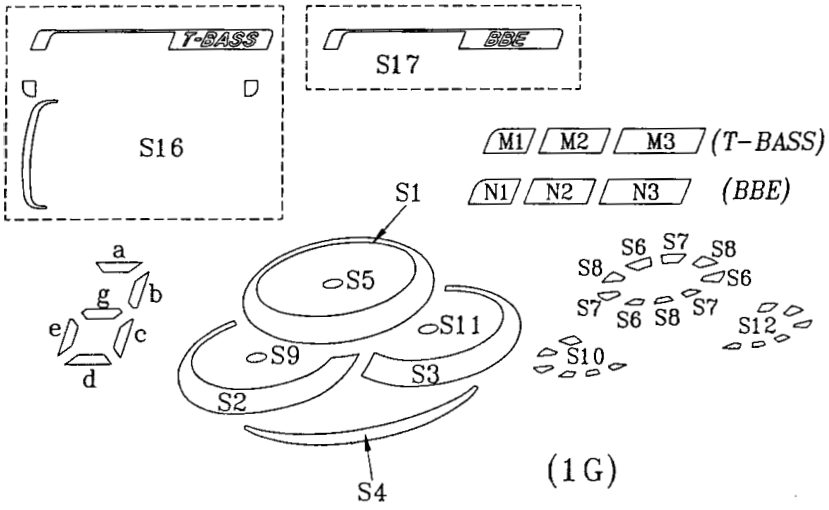


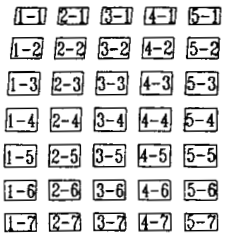

G DECK C.B
FROM B FRONT C.B
CN104
FC104
CON105
IC1
IC2
SW1
SW2
SW3
SW4
SW5
SW6
SW8
SW9
(CST1) SW1
(CAM1) SW2
(LH1) SW3
(DECK MOTOR) M1
SOL1 (DECK1)
W001
(REA) SW4
(LH2) SW5
(CST2) SW6
(CAM2) SW8
(REB) SW9
SOL2 (DECK2)
SFR1
R1
R2
R3
Q1
H HEAD-1 C.B
RED
BLK
GRY
WHT
CON301
TO A MAIN C.B
CN301
P HEAD (DECK-1)
I HEAD-2 C.B
CON351
TO A MAIN C.B
CN351
E/RP HEAD (DECK-2)

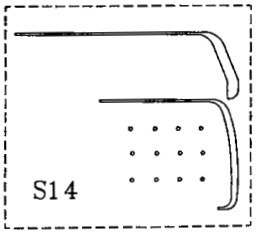
FL (HNA-11MM31) GRID ASSIGNMENT AND ANODE CONNECTION

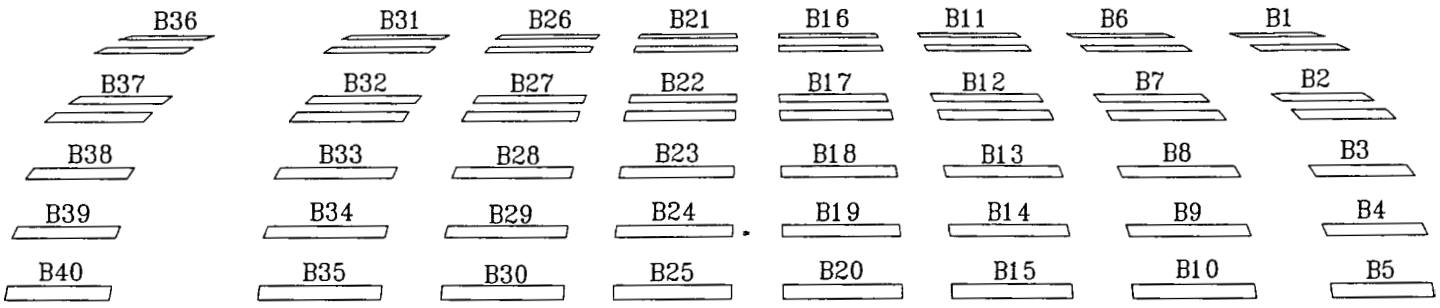
GRID ASSIGNMENT











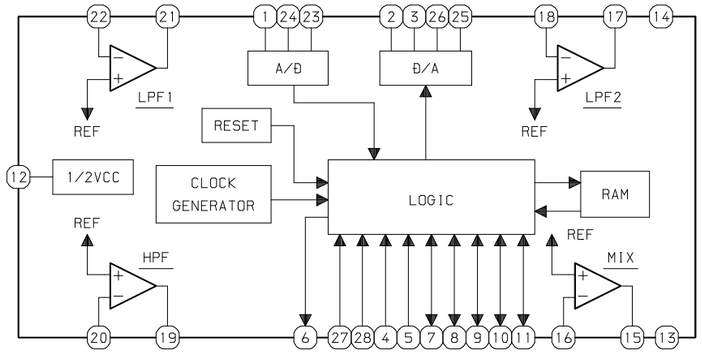
ANODE CONNECTION

	1G	2G	3G-10G	11G
P1	S17	B35	1-1	
P2	N1	B30	2-1	MONO
P3	N2	B25	3-1	RANDOM
P4	N3	B20	4-1	
P5	GRAPHIC EQUALIZER	B15	5-1	EDIT
P6		B10	1-2	
P7		B5	2-2	REC
P8		B34	3-2	kHz
P9		B29	4-2	MHz
P10		B24	5-2	○
P11	S4	B19	1-3	
P12	S2	B14	2-3	( )(♭)
P13	S10	B9	3-3	( )(♯)
P14	S9	B4	4-3	S14
P15	S3	B33	5-3	20
P16	S12	B28	1-4	19
P17	S11	B23	2-4	18
P18	S1	B18	3-4	17

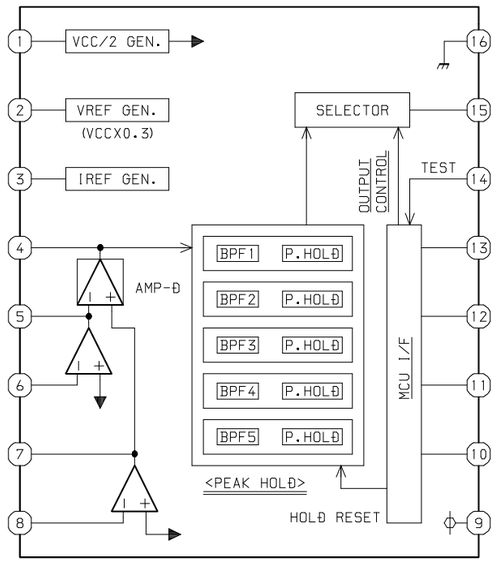
	1G	2G	3G-10G	11G
P19	S6	B13	4-4	16
P20	S7	B8	5-4	15
P21	S8	B3	1-5	14
P22	S5	B32	2-5	13
P23	S16	B27	3-5	12
P24	M1	B22	4-5	11
P25	M2	B17	5-5	10
P26	M3	B12	1-6	9
P27	e	B7	2-6	8
P28	a,g,d	B2	3-6	7
P29	b	B31	4-6	6
P30	c	B26	5-6	5
P31	B40	B21	1-7	4
P32	B39	B16	2-7	3
P33	B38	B11	3-7	2
P34	B37	B6	4-7	1
P35	B36	B1	5-7	

IC BLOCK DIAGRAM

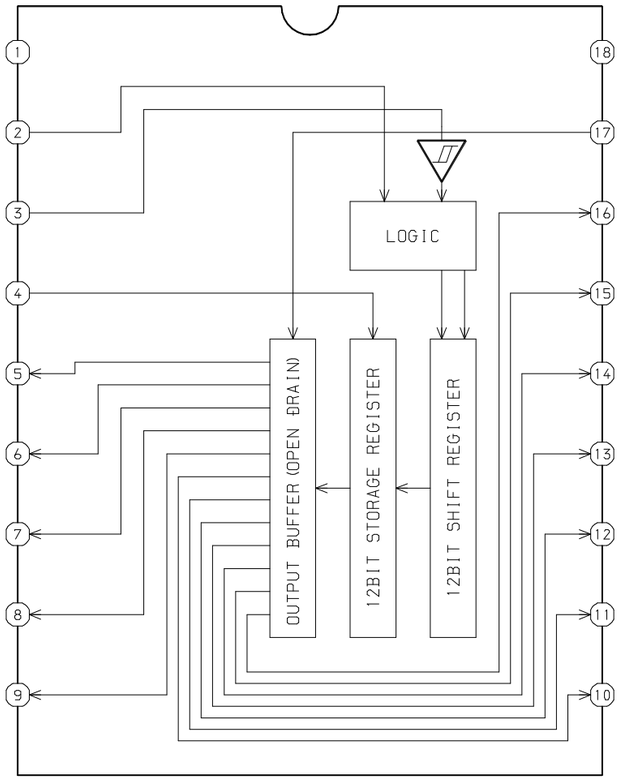
M65847AFP



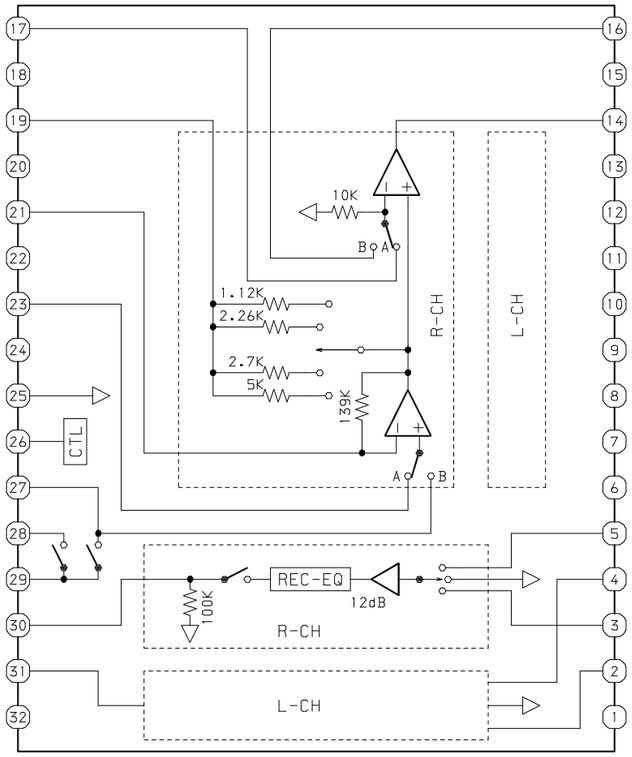
IC, M61506FP



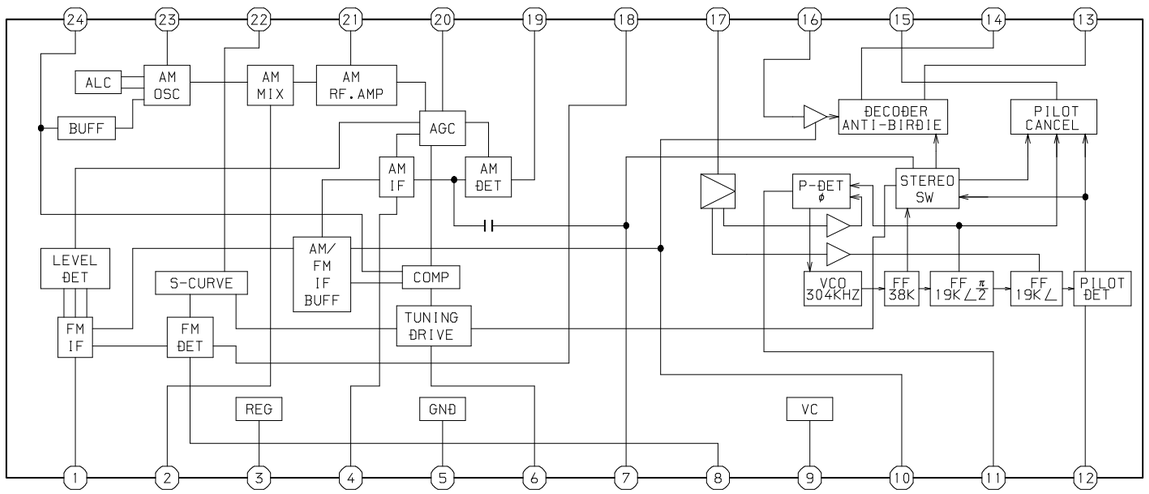
IC, BU2092F



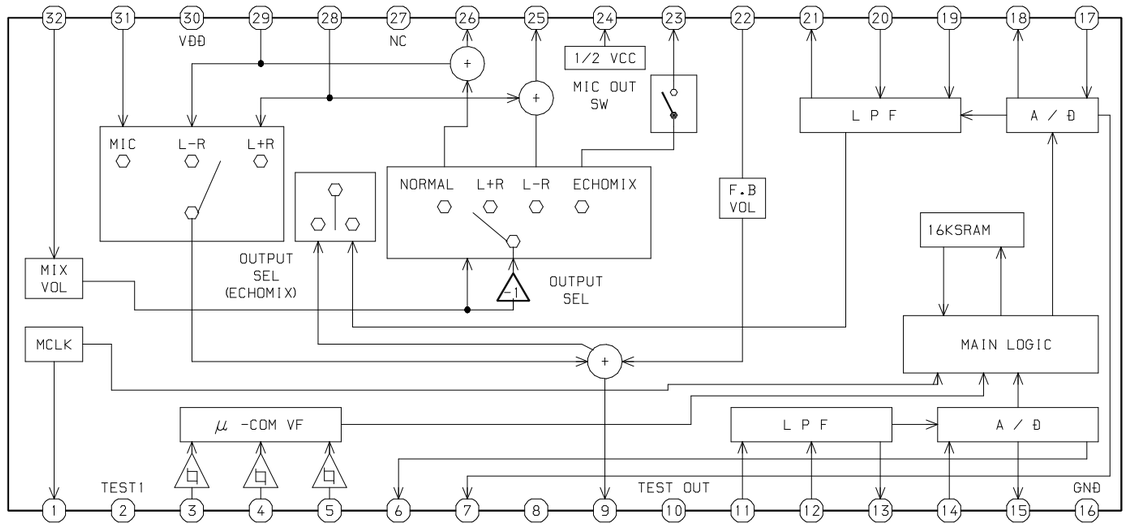
IC, BA7762AFS



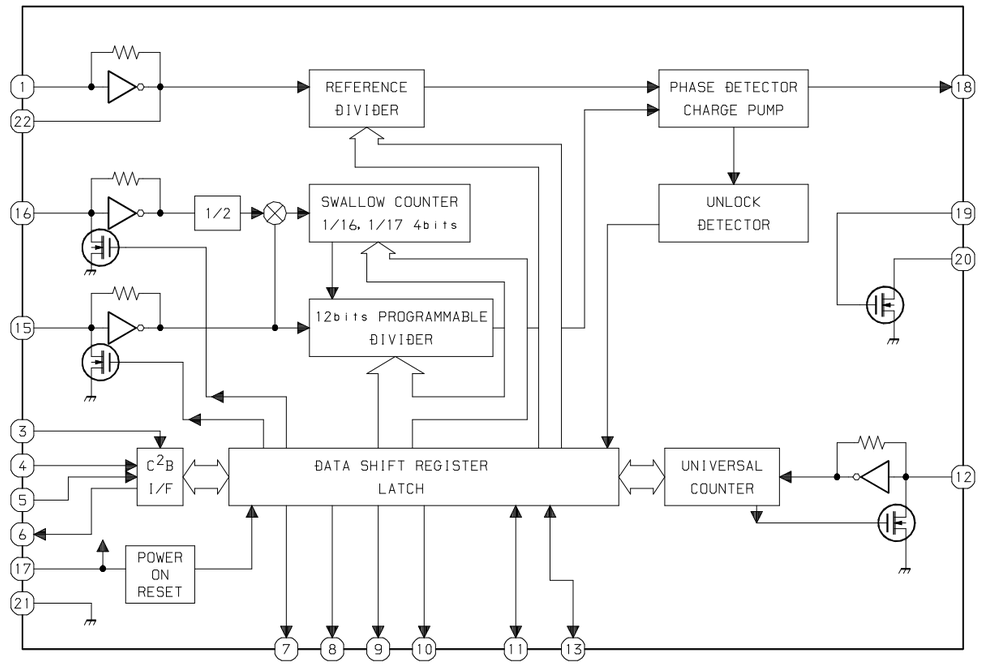
IC, LA1844L-A



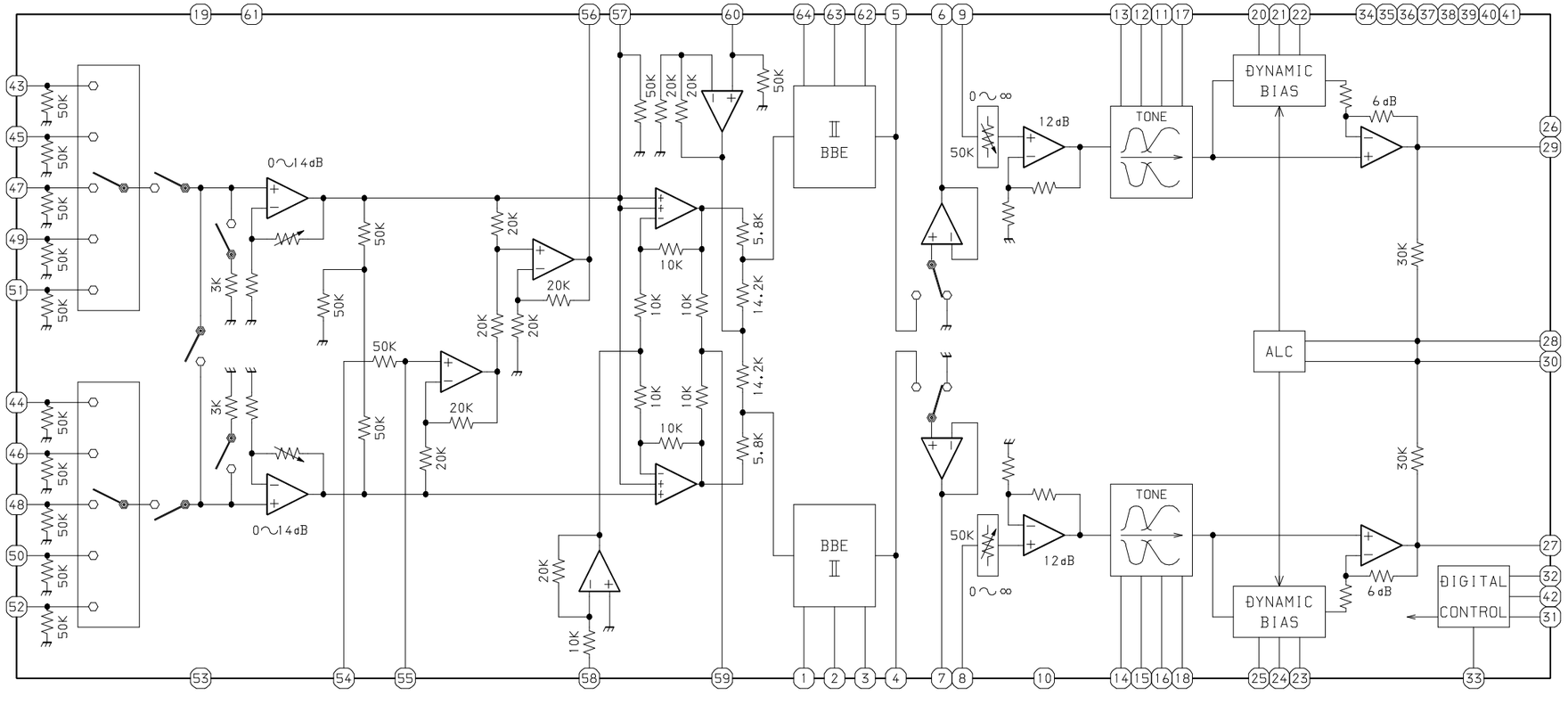
IC, M65849BFP631Đ



IC, LC72131Đ



IC, BĐ3876KS2



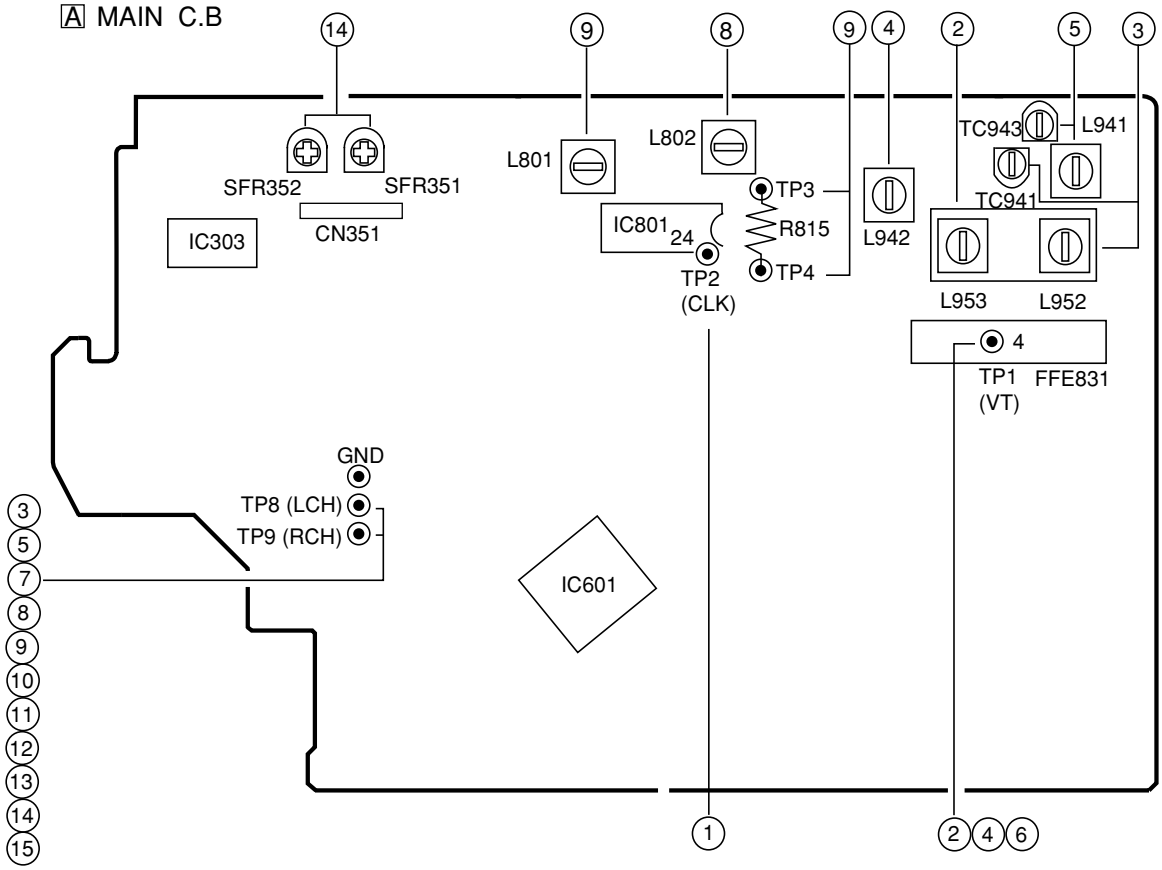
IC DESCRIPTION

IC, LC866560W

Pin No.	Pin Name	I/O	Description
1	I-$\overline{\text{STEREO}}$/I-DRF	I	Stereo detect input / CD DRF input.
2	I-$\overline{\text{IFC}}$/I-SUBQ	I	Tuner IFC input / CD SUBQ detect input.
3	NC	–	Not connected.
4	O-POWER	O	System power ON/OFF output.
5	O-CD_ON/I-$\overline{\text{HP MUTE}}$	O/I	Headphones connect detect input.
6	O-DSC_CE/PLL_DATA	O	LED driver, Tuner IC, Function IC, Data output.
7	O-RMT	O	REC mute output.
8	NC	–	Not connected.
9	O-MUTE	O	System mute ON/OFF output.
10	O-STB	O	Strobe output for MAIN C.B.
11	O-$\overline{\text{CLK_SFT}}$	O	Micon clock shift output.
12	RESET	–	System reset.
13	NC	–	Not connected.
14	I-DISH	I	CD turntable photo sensor input.
15	VSS1	–	Connected to GND.
16	CF1	–	5.76 MHz oscillator circuit.
17	CF2		
18	VDD1	–	Power supply.
19	I-$\overline{\text{HOLD}}$	I	Power supply voltage detect A/D input.
20 ~ 22	I-KEY 1 ~ 3	I	KEY 1 ~ 3 A/D input.
23	I-TU_SIG	I	RDS data input (not used).
24	I-CDSW	I	CD mecha switch input.
25	I-SPEANA	I	A/D input for spectrum analyser level display.
26	I-RE_VOL	I	Rotary encoder input (VOL).
27	I-WRQ/I-RDS_CLK	I	CD WRQ input / RDS clock input (not used).
28	I-TM_BASE	I	Base input for clock.
29	I-RMC	I	Remote control signal input. Active: "L".
30 ~ 40	G11 ~ G1	O	FL grid G11 ~ G1 output.
41	NC	–	Not connected.
42 ~ 45	P35 ~ P32	O	FL segment P35 ~ P32 output.
46	VDD3	–	Power supply.
47, 48	P31, P30	O	FL segment P31, 30 output.
49	P29/O-SPEANA-C	O	FL segment P29 output / Spectrum analyzer band select output (C) .
50	P28/O-SPEANA-B	O	FL segment P28 output / Spectrum analyzer band select output (B).
51	-VFL	–	Power supply input for FL display.
52	P27/O-SPEANA-A	O	FL segment P27 output / Spectrum analyzer band select output (A).
53, 54	P26, P25	O	FL segment P26, P25 output.
55	P24/I-KARAOKE	O/I	FL segment P24 output / KARAOKE input to diode.
56 ~ 59	P23 ~ 20	O	FL segment P23 ~ P20 output.
60	P19/SW	O/I	FL segment P19 output / SW mode data input.
61 ~ 63	P18 ~ P16	O	FL segment P18 ~ P16 output.

Pin No.	Pin Name	I/O	Description
64	P15/I-$\overline{\text{CST2}}$	O/I	FL segment P15 output / Deck 2 cassette detect switch input.
65	P14/I-$\overline{\text{REB}}$	O/I	FL segment P14 output / Deck side B record permission switch input.
66	P13/I-$\overline{\text{CAM2}}$	O/I	FL segment P13 output / Deck 2 CAM switch input.
67	P12/I-$\overline{\text{AUTO1}}$	O/I	FL segment P12 output / Deck 1 auto stop input.
68	P11/I-$\overline{\text{AUTO2}}$	O/I	FL segment P11 output / Deck 2 auto stop input.
69	P10/I-$\overline{\text{CAM1}}$	O/I	FL segment P10 output / Deck 1 CAM switch input.
70	P9/I-$\overline{\text{CST1}}$	O/I	FL segment P9 output / Deck 1 cassette detect switch input.
71	P8/I-$\overline{\text{REA}}$	O/I	FL segment P8 output / Deck side A record permission switch input.
72	VDD4	–	Power supply.
73	P7/I-REV2	O/I	FL segment P7 output / Deck 2 reverse mode input to diode.
74	P6/I-REV1	O/I	FL segment P6 output / Deck 1 reverse mode input to diode.
75	P5/NO_ECO	O/I	FL segment P5 output / NO ECO mode input to diode.
76 ~ 79	P4 ~ P1	O	FL segment output (P4 ~ P1).
80	O-CD_CLOSE	O	CD tray close output.
81	O-CD_OPEN	O	CD tray open output.
82	NC	–	Not connected.
83	I-JOG_A	I	Jog dial rotary encoder input A.
84	I-JOG_B	I	Jog dial rotary encoder input B.
85	O-DISH_FWD	O	CD turn table forward revolution output.
86	O-DISH_REV	O	CD turn table reverse revolution output.
87	O-PLLCE	O	Chip enable output for tuner PLL.
88	O-$\overline{\text{KEYSCAN}}$	O	Key scan timing output.
89	VSS2	–	Connected to GND.
90	VDD2	–	Power supply.
91	LED-$\overline{\text{STBY}}$	O	STBY LED on output (STBY LED on during O-POWER OFF).
92	O-$\overline{\text{MOTOR}}$	O	DECK motor output.
93	O-$\overline{\text{SOL1}}$	O	DECK1 plunger ON/OFF output.
94	O-$\overline{\text{SOL2}}$	O	DECK2 plunger ON/OFF output.
95	O-CD_DATA	O	CD data output.
96	O-CDLED	O	CD flash window LED ON/OFF output.
97	O-CD-CLK	O	CD CLK output.
98	O-CDCE	O	CD CD output.
99	I-RDS-DATA	I	RDS data input. (Not used)
100	O-PLL_CLK	O	PLL clock enable output.

ADJUSTMENT (TUNER / DECK / FRONT)



< TUNER SECTION >

1. Clock Frequency Check
   Settings : • Test point : TP2 (CLK)
   Method : Set to MW 1602kHz and check that the test point is 2052kHz ± 45Hz.

2. MW VT Adjustment
   Settings : • Test point : TP1 (VT)
   • Adjustment location : L953
   Method : Set to MW 1710kHz and adjust L953 so that the test point becomes 8.0V ± 0.05V. Then set to MW 530kHz and check that the test point is more than 0.3V.

3. MW Tracking Adjustment
   Settings : • Test point : TP8 (Lch), TP9 (Rch)
   • Adjustment location :
   L952..... 603kHz
   TC941..... 1404kHz
   Method : Set up TC941 to center before adjustment. Adjust L952 so that level at 603kHz becomes maximum. Then adjust TC941 so that the level at 1404kHz becomes maximum.

4. SW VT Adjustment
   Settings : • Test point : TP1 (VT)
   • Adjustment location : L942
   Method : Set to SW 17.9MHz and adjust L942 so that the test point becomes 8.0V ± 0.05V. Then set to SW 5.73MHz and check that the test point is more than 0.3V.

5. SW Tracking Adjustment
   Settings : • Test point : TP8 (Lch), TP9 (Rch)
   • Ajustment location :
   L941..... 5.73MHz
   TC943.....17.9MHz
   Method : Set up TC943 to center before adjustment. Adjust L941 so that level at 5.73MHz becomes maximum. Then adjust TC943 so that the level at 17.9MHz becomes maximum.

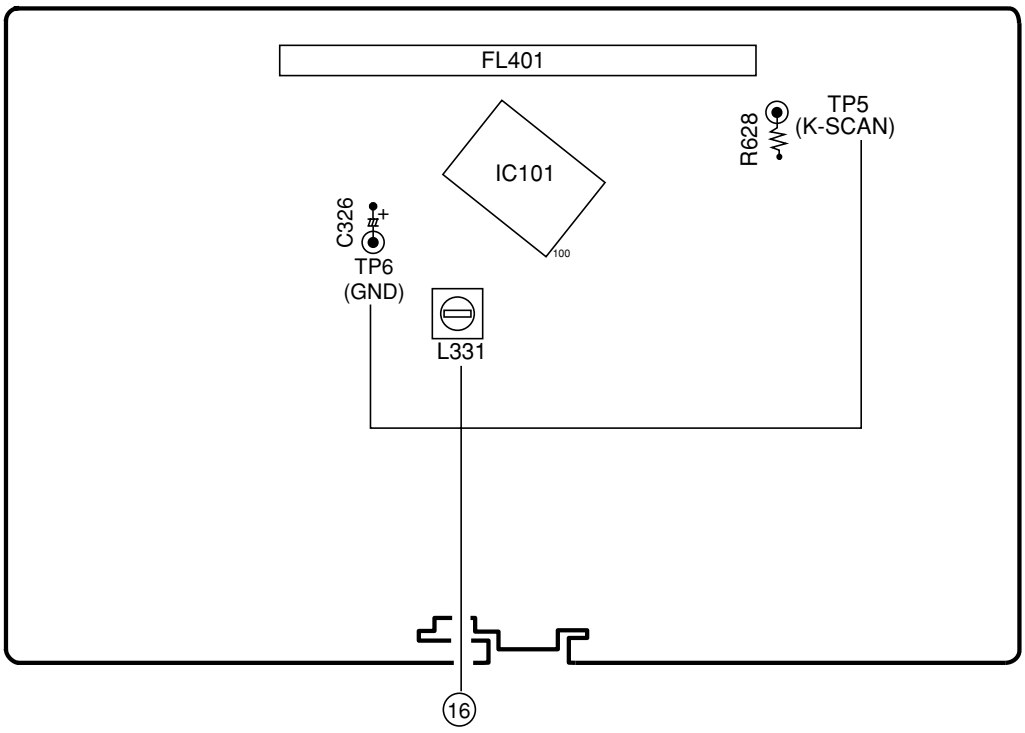
6. FM VT Check
   Settings : • Test point : TP1 (VT)
   Method : Set to FM 108.0MHz and check that the test point is less than 8.0V. Then set to FM 87.5MHz and check that the test point is more than 0.5V.

7. FM Tracking Check
   Settings : • Test point : TP8 (Lch), TP9 (Rch)
   Method : Set to FM 98.0MHz and check that the test point is less than 9.0dBμV.

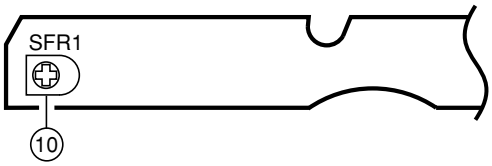
8. AM IF Adjustment
   Settings : • Test point : TP8 (Lch), TP9 (Rch)
   • Adjustment location : L802.....450kHz

9. DC Balance / Mono Distortion Adjustment
   Settings : • Test point : TP3, TP4 (DC Balance)
   TP8 (Lch), TP9 (Rch)
   • Adjustment location : L801
   • Input level : 60dBμV
   Method : Set to FM 98.0MHz and adjust L801 so that the voltage between TP3 and TP4 becomes 0V ± 0.3V.
   Next, check that the distortion is minimum.

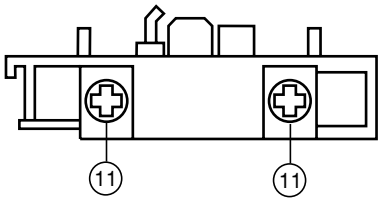
B FRONT C.B



G DECK C.B



DECK-1 P,DECK-2 R/P/E HEAD



< DECK SECTION >

10. Tape Speed Adjustment (DECK 2)
Settings : • Test tape : TTA-100 (3kHz)
• Test point : TP8 (Lch), TP9 (Rch)
• Adjustment location : SFR1
Method : Play back the test tape and adjust SFR1 so that the frequency counter reads 3000Hz ± 5Hz (FWD) and FWD SPEED ± 45Hz (REV).

11. Head Azimuth Adjustment (DECK 1, DECK 2)
Settings : • Test tape : TTA-330
• Test point : TP8 (Lch), TP9 (Rch)
• Adjustment location : Azimuth adjustment screw
Method : Play back (FWD) the 8kHz signal of the test tape and adjust screw so that the output becomes maximum. Next, perform on REV PLAY mode.

12. PB Frequency Response Check (DECK 1, DECK 2)
Settings : • Test tape : TTA-330
• Test point : TP8 (Lch), TP9 (Rch)
Method : Play back the 315Hz and 8kHz signals of the test tape and check that the output ratio of the 8kHz signal with respect to that of the 315Hz signal is within 0 ± 5.0dB.

13. PB Sensitivity Check (DECK1, DECK2)
Settings : • Test tape : TTA-200
• Test point : TP8 (Lch), TP9 (Rch)
Method : Play back the test tape and check that the output level of the test piont is 230mV ± 3dB.

14. REC/PB Frequency Response Adjustment (DECK 2)
Settings : • Test tape : TTA-602
• Test point : TP8 (Lch), TP9 (Rch)
• Input signal : 8kHz/1kHz (LINE IN)
• Adjustment location : SFR351 (Lch), SFR352 (Rch)
Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the test points becomes 10mV. Record and play back the 1kHz and 8kHz signals and adjust SFRs so that the output level of the 8kHz signals becomes 0dB ± 0.5dB with respect to that of the 1kHz signal.

15. REC/PB Sensitivity Check (DECK 2)
Settings : • Test tape : TTA-602
• Test point : TP8 (Lch), TP9 (Rch)
• Input signal : 1kHz (LINE IN)
Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the test points becomes 100mV. Record and play back the 1kHz signal and check that the output is -2dB ± 3dB.

<FRONT SECTION>

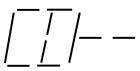
16. µ-CON OSC Adjustment
Settings : • Test point : TP5 (K-SCAN) and TP6 (GND)
• Adjustment location : L331
Method : Insert AC plug with pressing of POWER and TUNER function key. Adjust L331 so that the frequency across the test point is 153.85Hz ± 0.15Hz.

CD TEST MODE

1. How to Activate CD Test Mode
   Insert the AC plug while pressing the function CD button.
   All FL display tubes will light up, and the test mode will be activated.

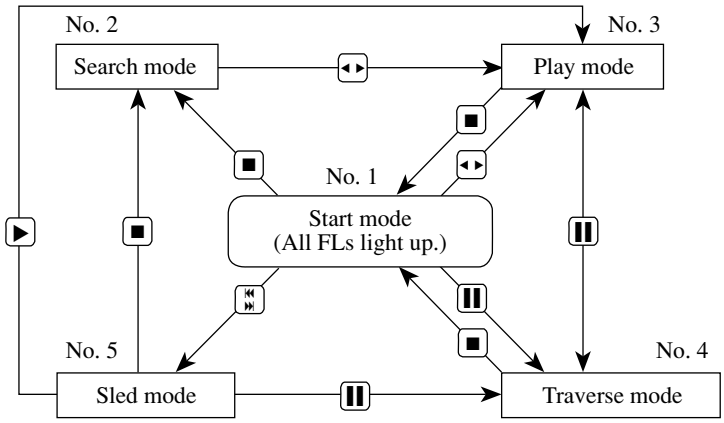
2. How to Cancel CD Test Mode
   Either one of the following operations will cancel the CD test mode.
   - Press the function button. (except CD function button)
   - Press the power switch button.
   - Disconnect the AC plug

3. CD Test Mode Functions
   When test mode is activated, the following mode functions from No.1 to No.5 can be used by pressing the operation keys.

Mode/No.	Operation	FL display	Operation	Contents
Start mode No.1	Activation	All lamps light	• Test mode is activated. • CD block power is ON.	• FL display check (All displays light.)
Search mode No.2	■ key		• Laser diode turns always ON. • Continual focus search (The pickup lens repeats the full-swing up-down motion.) * Avoid continual searches that last for more than 10 minutes. * NOTE 1	• APC circuit check • Laser current measurement (Laser current control. Across a resistor connected between emitter and GND.) FOCUS SERVO • Check focus search waveform • Check focus error waveform (FOK/FZC are not monitored in the search mode)
Play mode No.3	◄ ► key		• Normal playback • Focus search is continued if TOC cannot be read. * NOTE 1	FOCUS SERVO/TRACKING SERVO CLV SERVO/SLED SERVO Check DRF
Traverse mode No.4	❚❚ key		• During normal disc playback Press once; tracking servo OFF Press twice; tracking servo ON * NOTE 2	TRACKING SERVO ON/OFF Tracking balance (traverse) check
Sled mode No.5	⏮ key ⏭	All lamps light	• Pickup moves to the outermost track • Pickup moves to the innermost track * NOTE 3 (During playback, machine operates normally.)	SLED SERVO Check SLED mechanism operation

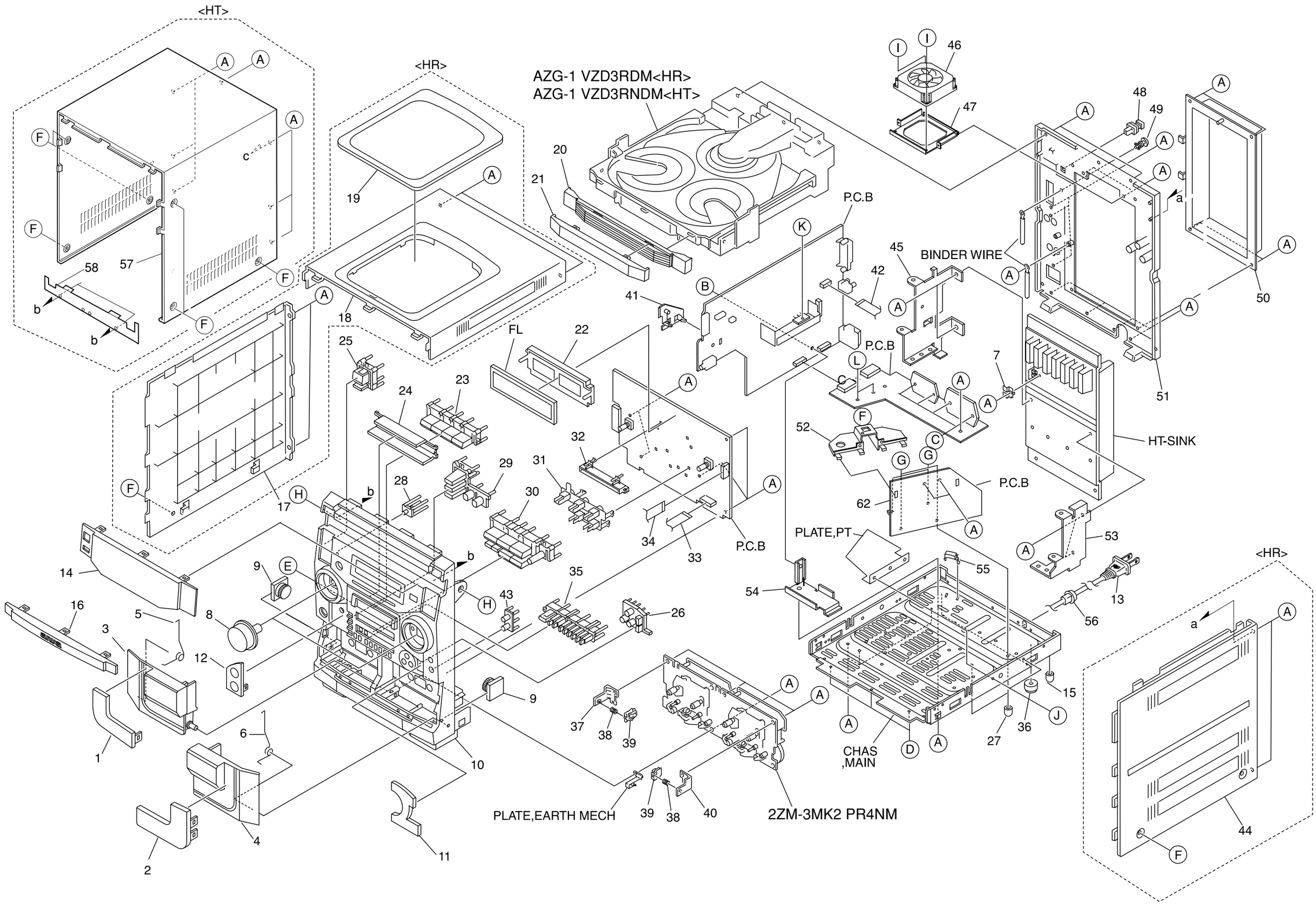
* NOTE 1: There are cases when the tracking servo cannot be locked owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases the power supply should be switched off for 10 minutes until heat has been reduced and then re-started.
* NOTE 2: Do not press the ⏮ or ⏭ keys when the machine is in the ❚❚ status is active. If they are pressed, playback will not be possible after the ❚❚ status has been canceled. If the ⏮ or ⏭ keys are pressed in the ❚❚ status, press the ■ key and return to the start mode (No.1).
* NOTE 3: When pressing the ⏮ or ⏭ keys, take care to avoid damage to the gears. Because the sled motor is activated when the ⏮ or ⏭ keys are pressed, even when the pick-up is at the outermost or innermost track.

4. Operation Outline
   The operation of each mode is carried out in the direction of the arrows from the start mode as indicated in the following illustration.



If the DISC DIRECT PLAY button is pressed, the machine performs the same operation as the PLAY button is pressed as shown. If the tray is opened by pressing OPEN/CLOSE button during Play mode or Traverse mode, the machine returns to the Start mode.

MECHANICAL EXPLODED VIEW 1 / 1



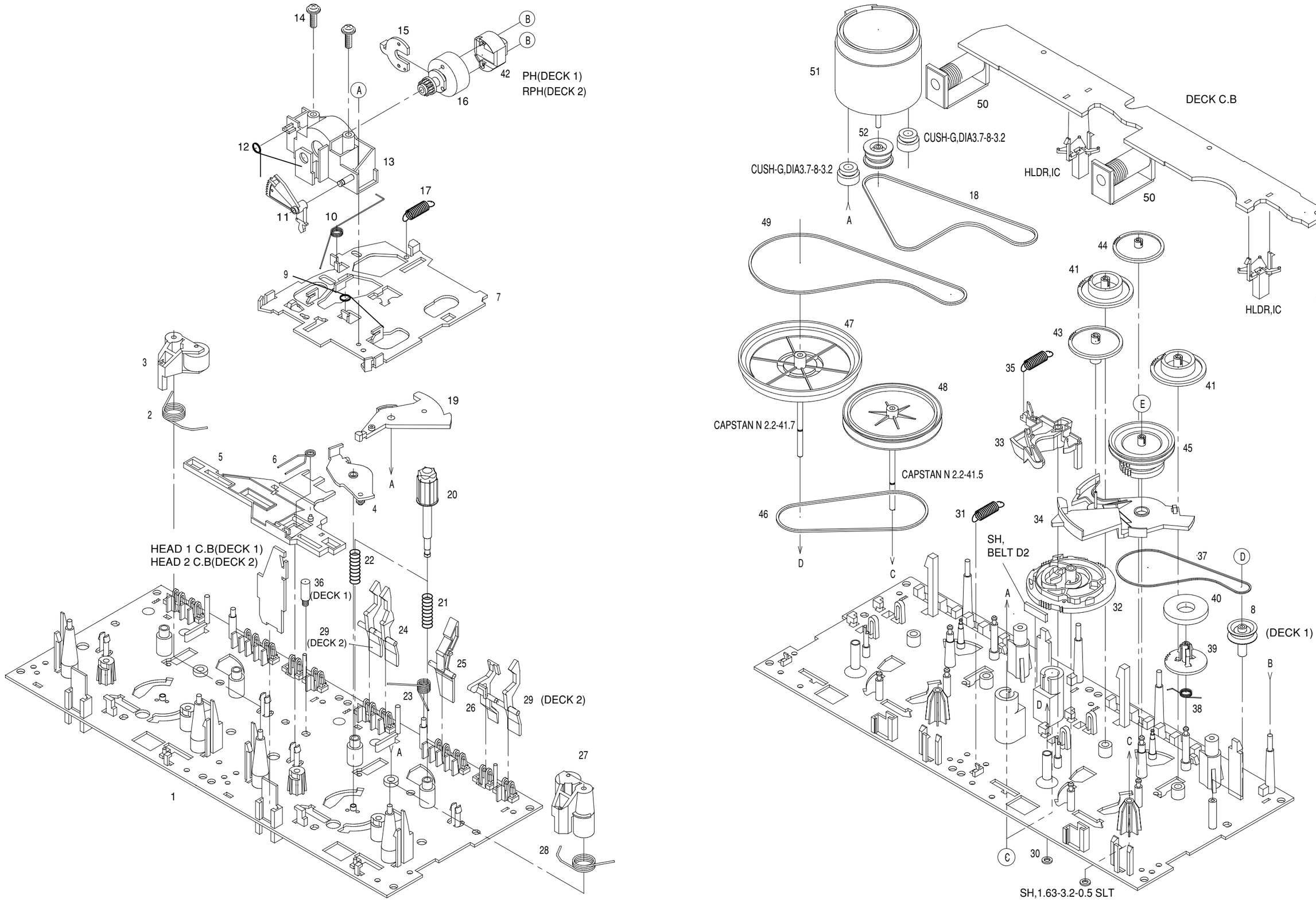
MECHANICAL PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-NFJ-012-010		WINDOW,CASS 1
2	8A-NFJ-013-010		WINDOW,CASS 2
3	8A-NFJ-035-010		BOX,CASS 1H
4	8A-NFJ-036-010		BOX,CASS 2H
5	82-NF5-218-010		SPR-T,EJECT 1 (SIN)
6	82-NF5-219-010		SPR-T,EJECT 2 (SIN)
7	8A-NF7-226-010		HLDR,IC2-T2
8	8A-NFJ-017-010		KNOB,RTRY JOG
9	8Z-NF6-210-010		DMPR,150 N
10	8A-NHJ-001-010		CABI,FR H
12	8A-NHJ-003-010		WINDOW,FR 1M
⚠ 13	87-A80-092-010		AC CORD ASSY,E BLK SUN FAI
14	8A-NHJ-004-010		WINDOW,DISP H
15	8Z-NB8-254-010		COVER, PL M3
16	8A-NFJ-008-010		WINDOW,CD
17	8A-NF8-007-010		PANEL,LEFT V-2<HR>
18	8A-NF8-005-010		PANEL,TOP<HR>
19	8A-NF8-006-010		WINDOW,TOP<HR>
20	8A-NFJ-009-010		PANEL,TRAY
21	8A-NHJ-005-010		WINDOW,TRAY VCD
22	88-NF8-205-010		GUIDE,FL
23	8A-NFJ-018-010		KEY,FUN
24	8A-NFJ-016-010		REFLECTOR,FUN
25	8A-NFJ-014-010		KEY,POWER
26	8A-NFJ-027-010		KEY,DISC
27	8Z-NB8-240-010		COVER, PL
28	8A-NFJ-015-010		REFLECTOR,ECO
29	8A-NFJ-019-010		KEY,GEQ
30	8A-NHJ-009-010		KEY,ASSY OPE REV VCD
31	8A-NF8-203-010		GUIDE,OPE REV
32	8A-NF8-201-010		GUIDE,FUN
33	88-915-101-110		FF-CABLE, 15P 1.25 100MM
34	88-913-301-110		FF-CABLE,13P-1.25
35	8A-NHJ-007-010		KEY,CD EDIT H
36	87-085-221-010		FOOT,H13.5
37	87-NF4-216-010		HLDR,LOCK 1
38	86-NF9-224-010		SPR-C,LOCK
39	82-NF5-229-010		PLATE,LOCK
40	87-NF4-217-110		HLDR,LOCK 2
41	8A-NF8-206-010		HLDR,PWB M
42	88-906-251-110		FF-CABLE,6P 1.25
43	8A-NFJ-046-010		KEY,ECHO
44	8A-NF7-112-010		PANEL,RIGHT V-2<HR>
45	8A-NF7-207-010		HLDR,HT L
46	87-A91-711-010		FAN,3110GL-B4W-B34-H02-400MM
47	8A-NF6-219-010		HLDR,FAN
48	84-ZG1-245-210		CAP,OPTICAL
49	87-084-077-010		NYLON RIVET, 3.5-4.5
50	8A-NH8-017-010		COVER, REAR STEEL H
51	8A-NHJ-002-010		PANEL,REAR HRJSM<HR>
51	8A-NHJ-016-010		PANEL,REAR HTSM<HT>
52	8A-NF6-217-010		HLDR,PWB PT
53	8A-NF7-208-010		HLDR,HT R
54	8A-NF7-209-010		HLDR,PWB-M BTM
55	87-NF4-221-010		HLDR,CABLE
56	87-085-185-010		BUSHING, AC CORD (E)
57	8A-DJV-003-010		CABI, STEEL<HT>
58	8A-DJV-202-010		HLDR, STCB<HT>
A	87-067-703-010		TAPPING SCREW, BVT2+3-10
B	87-NF4-224-010		S-SCREW,IT3B+3-8 CU
C	87-067-581-010		TAPPING SCREW, BVT2+3-15
D	87-067-688-010		BVTT+3-6
E	87-723-096-410		QT2+3-10W/O SLOT BL
F	87-067-641-010		UTT2+3-8(W/O SLOT)BL
G	87-078-191-010		S-SCREW,IT+4-10
H	87-721-097-410		QT2+3-12 GLD
I	87-067-689-010		BVTT+3-8
J	87-591-095-410		QIT+3-8
K	87-067-001-010		S-SCREW,BVWW ST2+3-12
L	87-067-584-010		BVT2+3-6 W/O SLOT

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange	GM	Metallic Green
YM	Metallic Yellow	DM	Metallic Orange		

TAPE MECHANISM EXPLODED VIEW 1 / 1



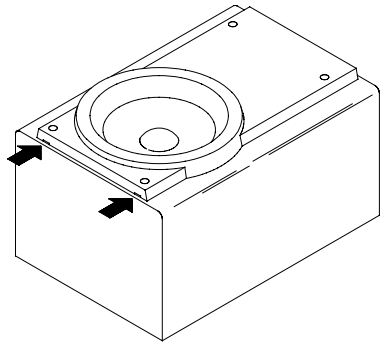
TAPE MECHANISM PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM3-301-610		CHAS ASSY,M2
2	82-ZM1-258-210		SPR-T,PINCH L
3	82-ZM1-341-210		LVR ASSY,PINCH L2
4	82-ZM1-333-210		PLATE,LINK2
5	82-ZM1-266-310		LVR,DIR
6	82-ZM1-214-010		SPR-T,DIR
7	82-ZM1-206-910		CHAS,HEAD
8	82-ZM3-335-310		PULLEY,COUPLER M3
9	82-ZM1-269-210		SPR-T,BRG
10	82-ZM1-219-110		SPR-T,LINK
11	82-ZM1-210-110		GEAR,H T
12	82-ZM1-213-010		SPR-T,HEAD
13	82-ZM1-207-910		GUIDE,TAPE
14	86-ZM4-206-010		S-SCREW,AZIMUTH L
15	82-ZM1-314-110		PLATE,HEAD
16	82-ZM1-208-310		HLDR,HEAD
17	82-ZM1-218-010		SPR-E,HB
18	82-ZM3-342-010		BELT,SBU MOT 3
19	82-ZM1-222-210		LVR,PLAY
20	82-ZM1-217-410		REEL TABLE
21	82-ZM1-244-510		SPR-C,BT
22	82-ZM1-285-410		SPR-C,BT L
23	82-ZM1-257-010		SPR-T,CAS
24	82-ZM1-241-310		LVR,MC
25	82-ZM1-242-010		LVR,CAS
26	82-ZM1-243-010		LVR,STOP
27	82-ZM1-344-010		LVR ASSY,PINCH R2
28	82-ZM1-259-210		SPR-T,PINCH R
29	82-ZM1-240-110		LVR,REC(*)
30	80-ZM6-243-010		SH 1.75-3.6-0.5 SLT
31	82-ZM1-255-310		SPR-E,LVR DIR
32	82-ZM3-305-210		GEAR,CAM M2
33	82-ZM1-227-310		LVR,TRIG
34	82-ZM3-306-110		LVR,FR M2
35	82-ZM1-265-310		SPR-E,TRIG
36	82-ZM3-339-110		SHAFT,COUPLER N3
37	86-ZM1-206-010		BELT,MAIN L
38	82-ZM1-322-010		SPR-T,FR 60
39	82-ZM1-220-210		GEAR,IDLER
40	82-ZM3-616-010		RING MAGNET 4
41	82-ZM1-216-410		GEAR,REEL
42	87-A90-820-010		HEAD,PH HADKH25 FPC
42	87-A90-821-010		HEAD,RPH HADKH56 FPC
43	82-ZM1-225-210		GEAR,FR
44	82-ZM1-226-010		GEAR,REW
45	82-ZM3-333-310		SLIP DISK ASSY 2
46	82-ZM1-338-110		BELT,FR 4
47	82-ZM1-349-110		FLY-WHL,R W
47	82-ZM1-348-110		FLY-WHL,L W
48	82-ZM3-338-310		FLY-WHL,R3W
49	82-ZM3-329-410		BELT,SBU R2
50	82-ZM1-618-410		SOL ASSY,27
51	87-045-347-010		MOT,SHU2L 70
52	82-ZM3-221-210		PULLEY,MOT 2M
A	85-ZM3-202-010		S-SCREW,TG
B	80-ZM6-207-010		V+1.6-7
C	82-ZM3-318-110		S-SCREW W,MOTOR M2
D	87-B10-043-010		W-P,0.99-4-0.25 SLT
E	82-ZM3-334-010		PW 2.16-6-0.4

SPEAKER DISASSEMBLY INSTRUCTIONS

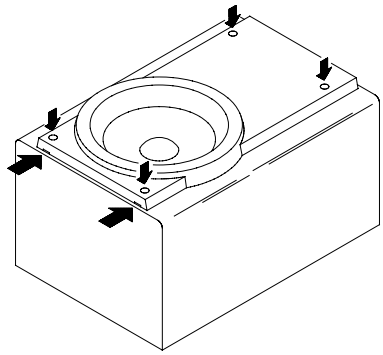
Type.1

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.



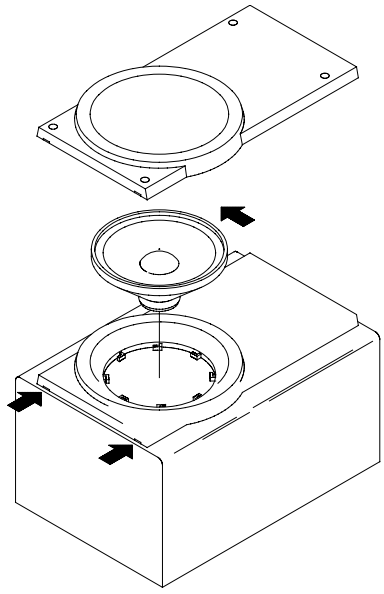
Type.2

Remove the grill frame and four pieces of rubber caps by pulling out with a flat-bladed screwdriver. Remove the screws from hole where installed rubber caps. Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.

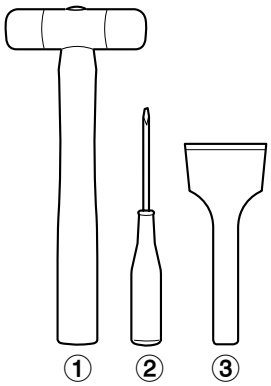


Type.3

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Turn the speaker unit to counter-clockwise direction while inserting a flat-bladed screwdriver into one of the hollows around speaker unit, and then remove the speaker unit. After replacing the speaker unit, install it turning to clockwise direction until "click" sound comes out.



Type.4



TOOLS

① Plastic head hammer
② (⊖) flat head screwdriver
③ Cut chisel

How to Remove the PANEL, FR

1. Insert the (⊖) flat head screwdriver tip into the gap between the PANEL, FR and the PANEL, SPKR. Tap the head of the (⊖) flat head screwdriver with the plastic hammer head, and create the clearance as shown in Fig-1.

2. Insert the cut chisel in the clearance, and tap the head of the cut chisel with plastic hammer as shown in Fig-2, to remove the PANEL, FR.

3. Place the speaker horizontally. Tap head of the cut chisel with plastic hammer as shown in Fig-3, and remove the PANEL, FR completely.

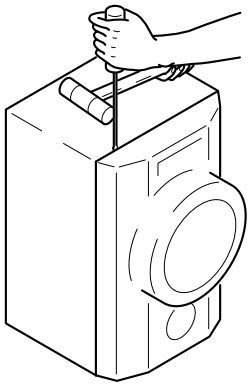


Fig-1

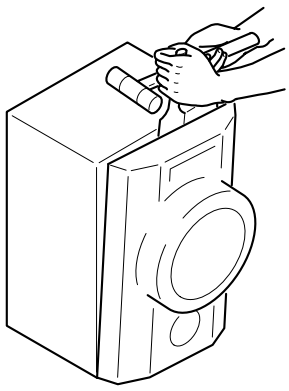


Fig-2

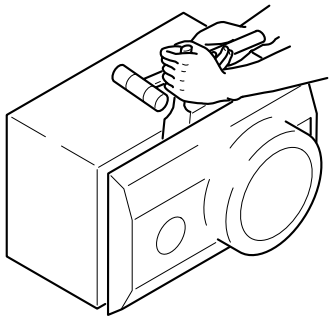


Fig-3

How to Attach the PANEL, FR

Attach the PANEL, FR to the PANEL, SPKR. Tap the four corners of the PANEL, FR with the plastic hammer to fit the PANEL, FR into the PANEL, SPKR completely.

SPEAKER PARTS LIST
SX-WNBL53 (YSL, YJSL, YJ3SL, YJ7SL, YSK1BL)

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-NS5-001-010		PANEL,FR<EXCEPT YSL>
1	8A-NS5-016-010		PANEL,FR U<YSL>
2	8A-NS5-004-010		PANEL,DUCT
3	8A-NS5-005-010		GRILLE,FRAME ASSY<EXCEPT YSL>
3	8A-NS5-012-010		GRILLE,FRAME ASSY U<YSL>
4	8A-NS5-009-010		PROTECTOR
5	88-NS5-610-010		CORD,SPKR
6	88-NS5-611-010		CORD,SPKR B/L
7	8Z-NSY-003-010		CORD,BUSH
8	88-NS3-029-010		CORD,BUSH L<EXCEPT YSK1BL>
9	8Z-NS7-602-010		SPKR,W 160
10	8A-NS8-604-010		SPKR,M 100<EXCEPT YSK1BL>
10	8A-NS5-604-010		SPKR,M 100<YSK1BL>
11	8Z-NSY-608-010		SPKR, CERAMIC ASSY
12	8Z-NS6-021-010		FOOT<YSK1BL>
13	8A-NS8-013-010		FASTNER,C<YSK1BL>
14	8Z-NS8-174-010		UT1 4*14 BZN<YSK1BL>
15	8A-NS5-017-010		PLATE,NAME B<EXCEPT YSK1BL>

ACCESSORIES / PACKAGE LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-NHJ-901-010		IB,H(EC-H)M VC58
2	87-006-226-010		AM LOOP ANT C0
3	87-043-115-010		ANT,FEEDER FM
4	87-050-103-010		CORD,PIN 1PY1.5M
5	87-A90-119-010		ANT WIRE SW(5M)
⚠ 6	87-A91-017-010		PLUG,CONVERSION JT-0476
7	8Z-NH8-702-010		RC UNIT,RC-ZAS07

アイワ株式会社 〒110-8710 東京都台東区池之端1-2-11 ☎03(3827)3111 (代表)
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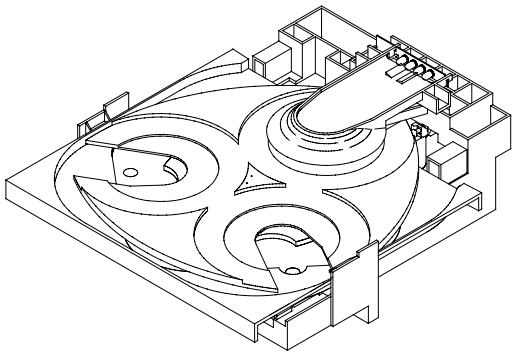
AZG-1

English



SERVICE MANUAL

CD-R/RW MECHANISM

BASIC CD MECHANISM:KSM-880CAB

TYPE
ZD8RD
YZD8RMDJM
ZD8RMDJM
ZD8RDNDM
YKZD8RDF
ZD8RDM
YZD8RDM
ZD8RN1DM
YZD8RDJM

aiwa

S/M Code No. 09-001-335-3N6

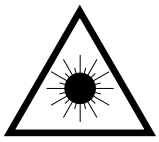
DATA

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynling laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

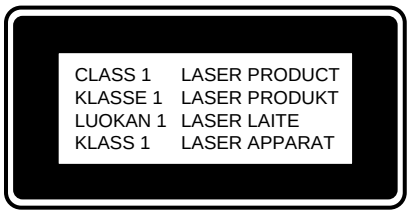
ATTENTION

L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!

Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

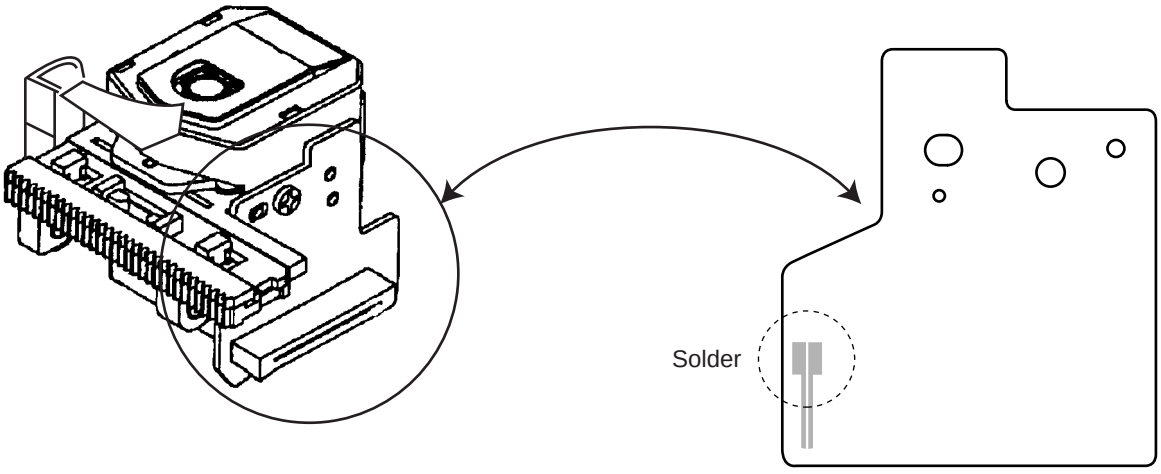
This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



Precaution to replace Optical block

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

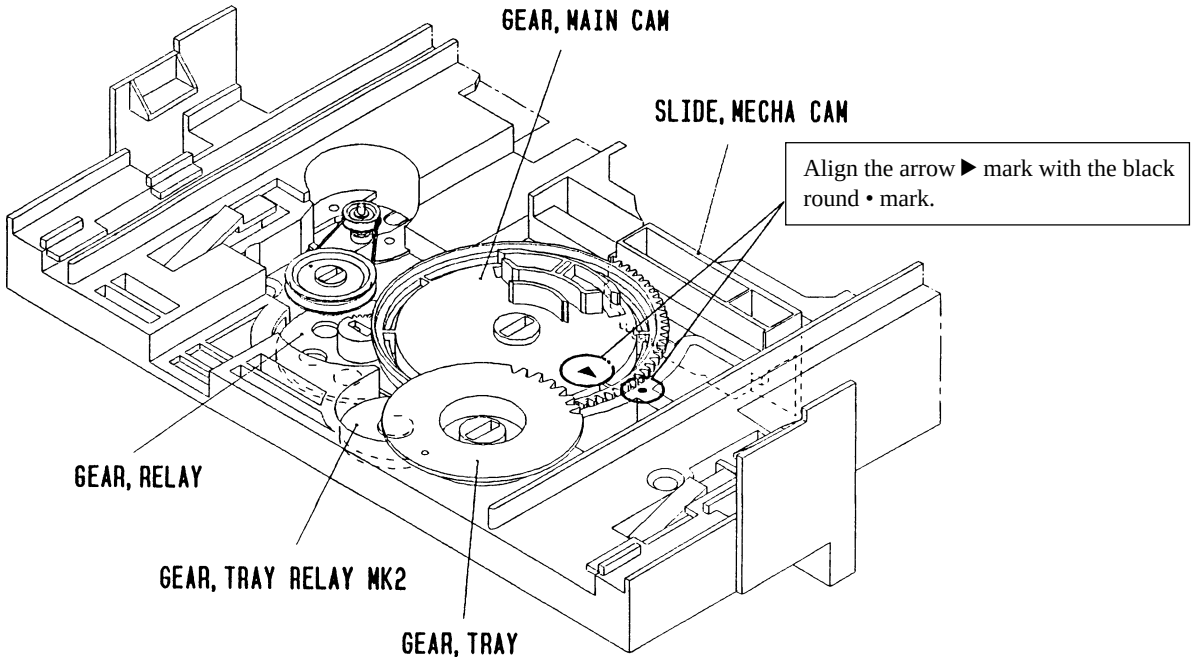
1) After the connection, remove solder shown in the figure below.



How to Adjust the Rotating Phase of the Gear, Main Cam

1) Push down the hooking catch of the CHAS. MECH, and remove the TRAY.
2) Align the arrow mark of the Gear, Main Cam with the black round mark of the CHAS, MECHA as shown below.
3) Confirm that the Slide, Mech Cam is located in the right position, then insert the TRAY gently.

Caution: If the rotating phase of the Gear, Main Cam is incorrectly adjusted, the chucking operation and tray movement will have malfunction.



ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

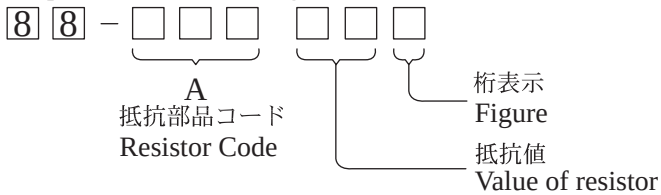
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-A21-381-040		C-IC,LA9235M
	87-A21-556-010		C-IC,LC78641E
	87-A21-414-010		IC,BA5927S
TRANSISTOR			
	87-026-609-080		TR,KTA1266GR
	87-A30-076-080		C-TR,2SC3052F
	87-A30-497-080		TR,2SA1980Y/G
	87-A30-087-080		C-FET,2SK2158
	87-026-237-080		CHIP-TR,DTC124XK <EXCEPT ZD8RN1DM,YZD8RDM>
	87-A30-075-080		C-TR,2SA1235F
DIODE			
	87-A40-270-080		C-DIODE,MC2838
	87-070-136-080		ZENER,MTZJ5.1B
	87-A40-003-080		ZENER,MTZJ4.3A
	87-A40-337-080		ZENER,MTZJ6.8B
	87-A40-313-080		C-DIODE,MC2840
3CD C.B			
C1	87-010-374-080		CAP,E 47-10
C2	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C2	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C3	87-010-260-080		CAP, ELECT 47-25V
C4	87-010-260-080		CAP, ELECT 47-25V
C5	87-010-197-020		CHIP CAPACITOR,0.01-25 <EXCEPT YKZD88RDF,ZD8RD>
C5	87-010-197-080		CHIP CAPACITOR,0.01-25 <YKZD88RDF,ZD8RD>
C6	87-010-405-080		CAP, ELECT 10-50V
C7	87-010-263-080		CAP, ELECT 100-10V
C8	87-012-349-080		C-CAP,S 1000P-50 CH
C10	87-010-546-080		CAP,E 0.33-50
C11	87-010-401-080		CAP, ELECT 1-50V
C13	87-010-321-020		C-CAP,S 82P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C13	87-010-321-080		C-CAP,S 82P-50 J CH <YKZD88RDF,ZD8RD>
C15	87-010-197-020		CHIP CAPACITOR,0.01-25 <EXCEPT YKZD88RDF,ZD8RD>
C15	87-010-197-080		CHIP CAPACITOR,0.01-25 <YKZD88RDF,ZD8RD>
C16	87-010-260-080		CAP, ELECT 47-25V
C101	87-010-992-080		C-CAP,S 0.047-25 B
C102	87-010-401-080		CAP, ELECT 1-50V
C103	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C103	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C104	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C104	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C105	87-010-260-080		CAP, ELECT 47-25V
C106	87-010-322-020		C-CAP,S 100P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C106	87-010-322-080		C-CAP,S 100P-50 CH <YKZD88RDF,ZD8RD>
C107	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C107	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C108	87-010-186-080		CAP,CHIP 4700P<YKZD88RDF,ZD8RD>
C108	87-010-186-020		CAP,CHIP 4700P <EXCEPT YKZD88RDF,ZD8RD>
C109	87-010-992-080		C-CAP,S 0.047-25 B
C110	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C110	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C111	87-010-260-080		CAP, ELECT 47-25V
C112	87-010-197-020		CHIP CAPACITOR,0.01-25 <EXCEPT YKZD88RDF,ZD8RD>
C112	87-010-197-080		CHIP CAPACITOR,0.01-25 <YKZD88RDF,ZD8RD>
C114	87-010-260-080		CAP, ELECT 47-25V
C115	87-010-197-080		CHIP CAPACITOR,0.01-25 <YKZD88RDF,ZD8RD>
C115	87-010-197-020		CHIP CAPACITOR,0.01-25 <EXCEPT YKZD88RDF,ZD8RD>
C116	87-010-260-080		CAP, ELECT 47-25V
C117	87-010-197-080		CHIP CAPACITOR,0.01-25 <YKZD88RDF,ZD8RD>
C117	87-010-197-020		CHIP CAPACITOR,0.01-25 <EXCEPT YKZD88RDF,ZD8RD>
C118	87-010-260-080		CAP, ELECT 47-25V
C119	87-015-819-080		
C120	87-010-312-080		C-CAP,S 15P-50 CH <YKZD88RDF,ZD8RD>
C120	87-010-312-020		C-CAP,S 15P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C121	87-010-312-020		C-CAP,S 15P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C121	87-010-312-080		C-CAP,S 15P-50 CH <YKZD88RDF,ZD8RD>
C122	87-010-404-080		CAP, ELECT 4.7-50V
C123	87-010-197-020		CHIP CAPACITOR,0.01-25 <EXCEPT YKZD88RDF,ZD8RD>
C123	87-010-197-080		CHIP CAPACITOR,0.01-25 <YKZD88RDF,ZD8RD>
C124	87-010-401-080		CAP, ELECT 1-50V
C126	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C126	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C128	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C128	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C130	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C130	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C132	87-010-405-080		CAP, ELECT 10-50V
C133	87-010-314-020		C-CAP,S 22P-50V <EXCEPT YKZD88RDF,ZD8RD>
C133	87-010-314-080		C-CAP,S 22P-50V<YKZD88RDF,ZD8RD>
C135	87-A11-088-080		CAP,TC U 100P-50 J CH
C151	87-010-405-080		CAP, ELECT 10-50V
C152	87-010-405-080		CAP, ELECT 10-50V
C192	87-012-349-080		C-CAP,S 1000P-50 CH
C193	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C193	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C201	87-A10-730-080		CAP,E 1000-16 SMG
C202	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C202	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C204	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C204	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C205	87-010-405-080		CAP, ELECT 10-50V
C206	87-010-405-080		CAP, ELECT 10-50V
C207	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C207	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C301	87-010-382-080		CAP, ELECT 22-25V
C302	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C302	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C303	87-010-260-080		CAP, ELECT 47-25V
C401	87-010-322-020		C-CAP,S 100P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C401	87-010-322-080		C-CAP,S 100P-50 CH <YKZD88RDF,ZD8RD>
C402	87-010-322-020		C-CAP,S 100P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C402	87-010-322-080		C-CAP,S 100P-50 CH <YKZD88RDF,ZD8RD>
C403	87-010-322-020		C-CAP,S 100P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C403	87-010-322-080		C-CAP,S 100P-50 CH <YKZD88RDF,ZD8RD>
C404	87-010-322-080		C-CAP,S 100P-50 CH <YKZD88RDF,ZD8RD>
C404	87-010-322-020		C-CAP,S 100P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C405	87-010-322-020		C-CAP,S 100P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C405	87-010-322-080		C-CAP,S 100P-50 CH <YKZD88RDF,ZD8RD>
C406	87-010-322-020		C-CAP,S 100P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C406	87-010-322-080		C-CAP,S 100P-50 CH <YKZD88RDF,ZD8RD>
C407	87-010-405-080		CAP, ELECT 10-50V
C454	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C454	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C601	87-010-260-080		CAP, ELECT 47-25V
C602	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C602	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
CN1	87-A60-429-010		CONN,16P H TOC-A
CN201	84-ZG1-648-010		CONN ASSY,6P
CN202	87-A60-130-010		CONN,5P V
CN501	84-ZG1-647-010		CONN ASSY,2P <EXCEPT ZD8RN1DM,ZD8RNDM>
CN601	87-009-345-010		CONN,2P PH V <EXCEPT ZD8RN1DM,ZD8RDM,YZD8RDM,ZD8RNDM>
CON401	87-099-030-010		CONN,13P 6216H
FB601	87-008-372-080		FLTR,EMI BL01 RN1 <EXCEPT ZD8RN1DM,ZD8RDM,YZD8RDM,ZD8RNDM>
FB602	87-008-372-080		FLTR,EMI BL01 RN1
LED601	87-A40-558-010		LED,SLZ-8128A-01-A
M201	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)
SW201	87-036-109-010		SW,MICRO SPPB61
SW202	87-036-109-010		SW,MICRO SPPB61
X101	87-A70-046-010		VIB,XTAL 16.934MHZ
LED. C.B			
LED501	87-A40-263-080		LED,SLH-56PCT31 GRN <EXCEPT ZD8RN1DM,ZD8RNDM>
LED502	87-A40-263-080		LED,SLH-56PCT31 GRN <EXCEPT ZD8RN1DM,ZD8RNDM>
LED503	87-A40-268-080		LED,SLH-56DCT31 ORN <EXCEPT ZD8RN1DM,ZD8RNDM>
LED504	87-A40-268-080		LED,SLH-56DCT31 ORN <EXCEPT ZD8RN1DM,ZD8RNDM>
T-T C.B			
C401	87-018-214-080		CAP TC U 0.1-50F
CON401	86-NFZ-675-010		CONN,5P H 6216-11H
M401	87-045-364-010		MOTOR(BCH3B14)
PS401	87-026-573-010		SNSR,PHOTO GP1S53V
MOTOR C.B			
PIN3	91-564-722-110		CONN,PIN 6P
SW1	91-572-085-110		LEAF SWITCH

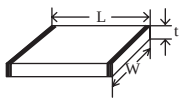
- Regarding connectors, they are not stocked as they are not the initial order items.
  The connectors are available after they are supplied from connector manufacturers upon the order is received.

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

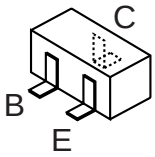
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗
Chip resistor

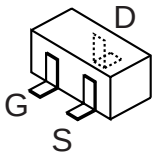
容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm) 外形／Form	L	W	t	抵抗コード : A Resistor Code : A
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION

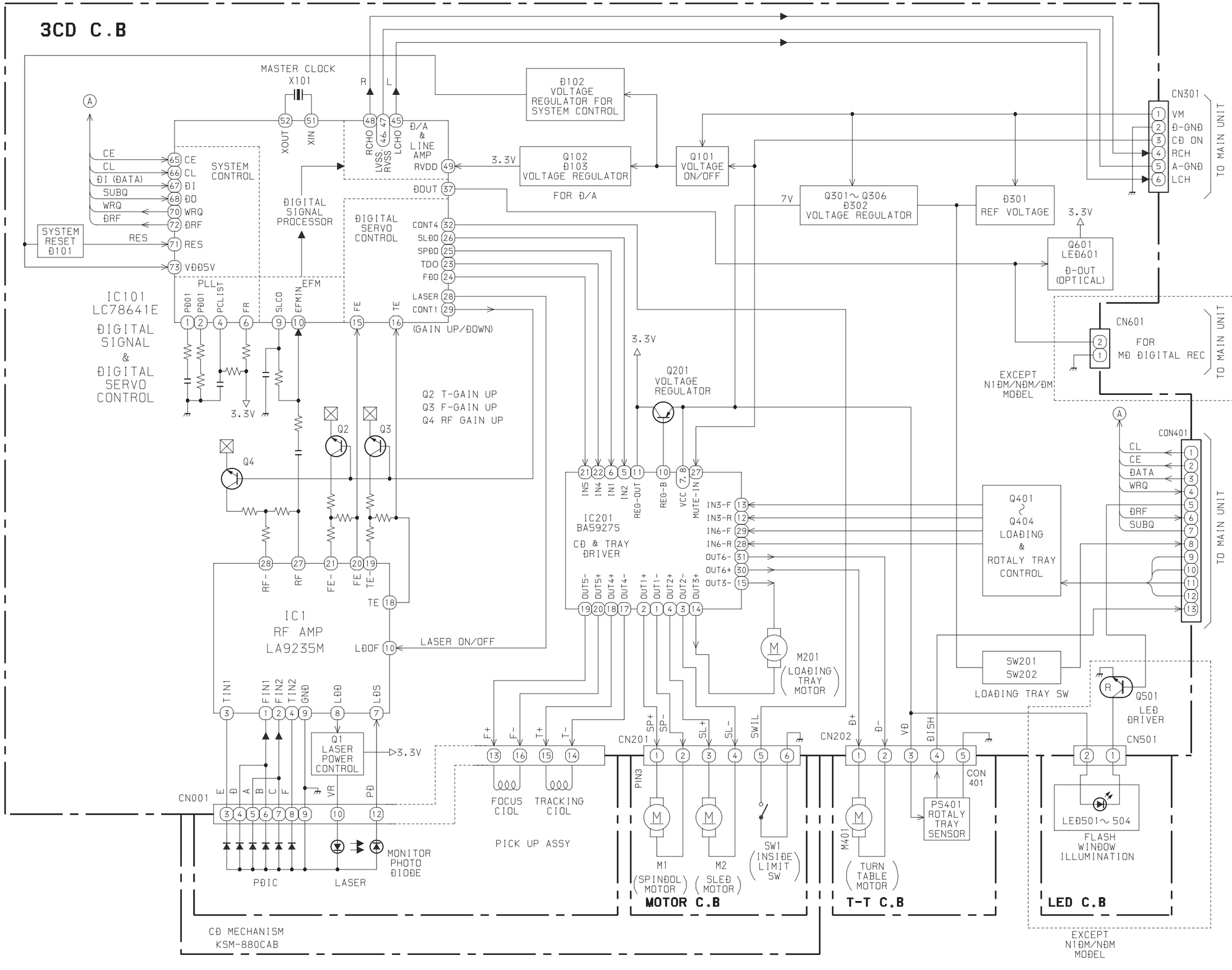


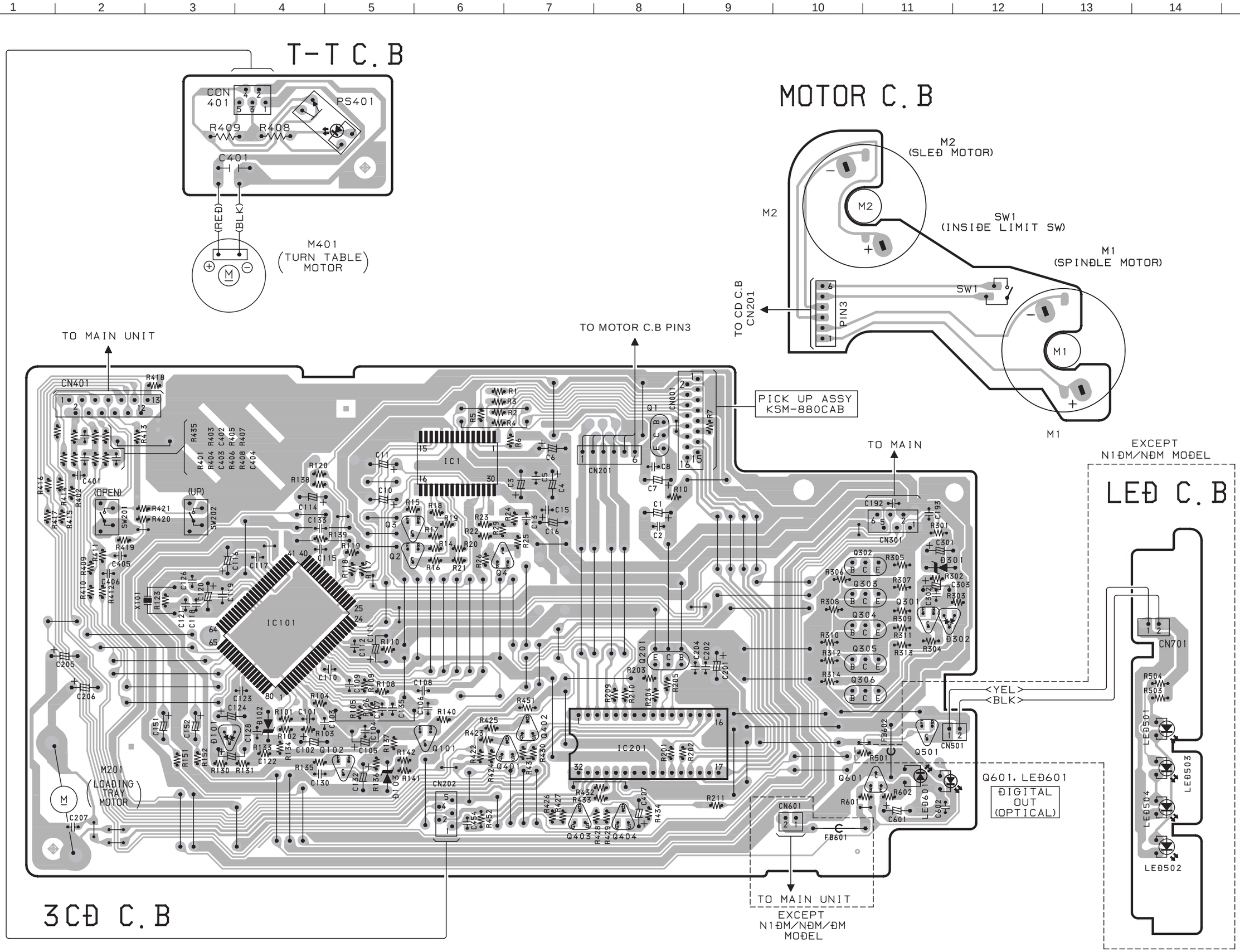
2SA1235F
2SC3052F
DTC124XK

2SA1980Y/G
KTA1266GR

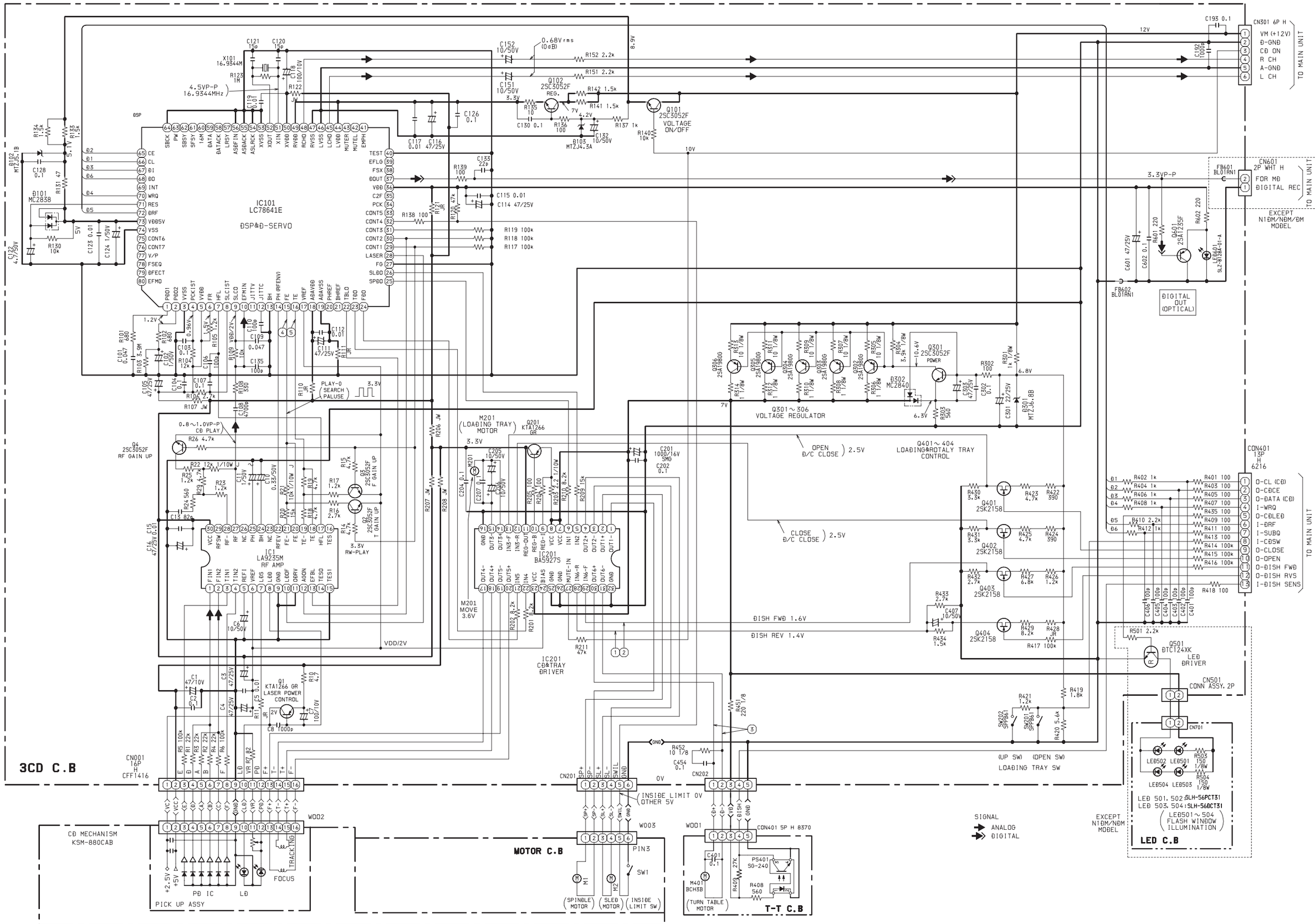


2SK2158


3CD C.B
MASTER CLOCK
X101
XOUT
XIN
R
L
RCHO
LVSS
RVSS
LCHO
Đ/A & LINE AMP
Đ102 VOLTAGE REGULATOR FOR SYSTEM CONTROL
Q102 Đ103 VOLTAGE REGULATOR
FOR Đ/A
Q101 VOLTAGE ON/OFF
3.3V
RVDD
ĐOUT
CE
CL
Đ I (ĐATA)
SUBQ
WRQ
ĐRF
RES
VĐĐ5V
SYSTEM CONTROL
SYSTEM RESET Đ101
ĐIGITAL SIGNAL PROCESSOR
ĐIGITAL SERVO CONTROL
CONT4
SLĐO
SPĐO
TDO
FĐO
LASER
CONT1
(GAIN UP/ĐOWN)
PLL
EFM
IC101
LC78641E
ĐIGITAL SIGNAL & ĐIGITAL SERVO CONTROL
PĐO1
PDO1
PCLIST
FR
SLCO
EFMIN
FE
TE
Q2 T-GAIN UP
Q3 F-GAIN UP
Q4 RF GAIN UP
Q2
Q3
Q4
Q201 VOLTAGE REGULATOR
7V
Q301~Q306 Đ302 VOLTAGE REGULATOR
Đ301 REF VOLTAGE
Q601 LEĐ601 Đ-OUT (OPTICAL)
CN301
VM
Đ-GNĐ
CĐ ON
RCH
A-GNĐ
LCH
TO MAIN UNIT
CN601
FOR MĐ ĐIGITAL REC
EXCEPT N1ĐM/NĐM/ĐM MOĐEL
CON401
CL
CE
ĐATA
WRQ
ĐRF
SUBQ
IC201
BA5927S
CĐ & TRAY ĐRIVER
IN5
IN4
IN1
IN2
REG-O
REG-B
VCC
MUTE-IN
IN3-F
IN3-R
IN6-F
IN6-R
OUT6-
OUT6+
OUT3-
OUT5-
OUT5+
OUT4+
OUT4-
OUT1+
OUT1-
OUT2+
OUT2-
OUT3+
Q401 ~ Q404 LOAĐING & ROTALY TRAY CONTROL
SW201 SW202
LOAĐING TRAY SW
M201 (LOAĐING TRAY MOTOR)
M
IC1
RF AMP
LA9235M
RF-
RF
FE-
FE
TE-
TE
LĐOF
LASER ON/OFF
TIN1
FIN1
FIN2
TIN2
GND
LĐĐ
LĐS
Q1 LASER POWER CONTROL
VR
PĐ
CN001
E
Đ
A
B
C
F
PĐIC
LASER
MONITOR PHOTO ĐIOĐE
F+
F-
T+
T-
FOCUS CIOL
TRACKING CIOL
PICK UP ASSY
CN201
SP+
SP-
SL+
SL-
SWIL
PIN3
M1 (SPINĐOL MOTOR)
M2 (SLEĐ MOTOR)
SW1 (INSIĐE LIMIT SW)
MOTOR C.B
CN202
Đ+
Đ-
VĐ
ĐISH
M401
TURN TABLE MOTOR
PS401 ROTALY TRAY SENSOR
CON 401
T-T C.B
Q501 LEĐ ĐRIVER
CN501
LEĐ501~504
FLASH WINĐOW ILLUMINATION
LED C.B
EXCEPT N1ĐM/NĐM MOĐEL
CĐ MECHANISM KSM-880CAB


T-T C.B
CON 401
PS401
R409
R408
C401
(RED)
(BLK)
M401
(TURN TABLE MOTOR)
MOTOR C.B
M2
(SLED MOTOR)
M2
SW1
(INSIDE LIMIT SW)
M1
(SPINDLE MOTOR)
SW1
PIN3
TO CD C.B
CN201
M1
TO MAIN UNIT
TO MOTOR C.B PIN3
PICK UP ASSY
KSM-880CAB
TO MAIN
EXCEPT
N1DM/NDM MODEL
LED C.B
CN401
R418
(OPEN)
(UP)
SW201
SW202
M201
(LOADING TRAY MOTOR)
IC1
IC101
IC201
CN201
CN001
CN202
CN601
CN301
CN501
CN701
Q1
Q2
Q3
Q4
Q101
Q102
Q201
Q301
Q302
Q303
Q304
Q305
Q306
Q401
Q402
Q403
Q404
Q501
Q601
FB601
FB602
X101
D101
D102
D301
D302
LED501
LED502
LED503
LED504
LED601
<YEL>
<BLK>
Q601, LED601
DIGITAL OUT (OPTICAL)
TO MAIN UNIT
EXCEPT
N1DM/NDM/DM
MODEL
3CD C.B

SCHEMATIC DIAGRAM



TEST MODE

1. How to Start the CD Test Mode

While pressing the CD function key, connect the AC power plug to wall outlet.
The test mode starts up and “CD TEST” appears on the display.

2. How to Exit the CD Test Mode

Press the POWER button or disconnect the AC power plug from wall outlet.
* When any function key other than PLAY is pressed during playback, the test mode is canceled.

3. Function and Use of the CD Test Mode

NO	MODE	How to enter the mode	Display	Operation	Check item
1	Start mode		All indicators turn on	• All FL all ndicators turn on	• FL check • Microprocessor check
2	Search mode	STOP button	CD	• LD turns on all the time • Focus search continuos operation *1 • Spindle motor continuos kick	• APC circuit check • Laser current measurement • Focus search waveform check • Focus error waveform check (Ignores DRF during search mode)
3	Play mode	PLAY button	Normal	• Normal playback • Focus search is continued if failed in TOC READ.	• Each servo circuit is checked • DRF check
4	Traverse mode	PAUSE button	Normal	• Tracking servo OFF/ON Repeats OFF/ON every time the PAUSE button is pressed	• Tracking balance check
5	Sled mode	FF button	CD TEST	• Moves PU to inner circumference *2 Kicks the lens to inner circumference at the same time	• Sled circuit check • Tracking circuit check • Mechanism operation check • PU check
		RWD button	CD TEST	• Moves PU to outer circumference *2 Kicks the lens to outer circumference at the same time	
6	Spindle mode	TAPE REC button	All indicators turn on	• Pressing the button once rotates the spindle motor in the normal direction (rough speed). Pressing the button again rotates it in the reverse direction. Pressing it again stops the motor	• Spindle circuit check • Spindle motor check
7	RF AGC mode	TUNER button	AGC ON/OFF	• Repeats ON/OFF every time the TUNER button is pressed	• PU good or defective check • RF AMP circuit check

*1 ..... When the focus search keeps running for 10 minutes or longer continuously, the driver IC heats up, and the protective circuit works so that the machine may stops operating.
In this case, turn off the main power, wait for a while and restart the machine.

*2 ..... Do not keep pressing the FF or RWD button while the pickup is located at the innermost or outermost circumference because the gear can be damaged as the sled motor keeps rotating.

4. Automatic Adjustment Result Display

The automatic adjustment values of the focus and the tracking can be displayed.

4-1. Automatic Adjustment Result Display of Focus Offset Cancel/Gain

1) Enter the start mode (all indicators turn on).
2) Press the TAPE button to display “F**” and set each of the adjustment item to either ON or OFF. (Refer to the following table.)
3) Press the PLAY button to play back the CD.
4) Press the CD button.
5) The automatic adjustment value “F** **” is displayed. (Refer to the following table.)
6) Upon completion of check, press the CD button twice to return to the play mode.

Adjustment item (ON = 1, OFF = 0)			Automatic adjustment value display (Asterisk * means hexadecimal display.)			
F	OFFSET	GAIN	F	OFFSET	—	GAIN
F	0	0	F	Not displayed	Not displayed	Not displayed
F	1	1	F	**	Not displayed	**
F	1	0	F	**	Not displayed	Not displayed
F	0	1	F	Not displayed	Not displayed	**

4-2. Automatic Adjustment Result Display of Tracking Offset Cancel/Balance/Gain

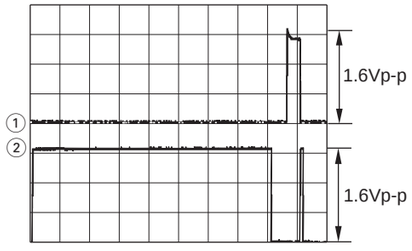
1) Enter the start mode (all indicators turn on).
2) Press the AUX button to display “T***” and set each adjustment item to either ON or OFF. (Refer to the following table.)
3) Press the PLAY button to play back the CD.
4) Press the CD button twice.
5) The automatic adjustment value “F******” is displayed. (Refer to the following table.)
6) Upon completion of check, press the CD button to return to the play mode.

Adjustment item (ON = 1, OFF = 0)				Automatic adjustment value display (Asterisk * means hexadecimal display.)			
T	OFFSET	BALANCE	GAIN	T	OFFSET	BALANCE	GAIN
T	0	0	0	T	Not displayed	Not displayed	Not displayed
T	1	1	1	T	**	**	**
T	1	1	0	T	**	**	Not displayed
T	1	0	1	T	**	Not displayed	**
T	1	0	0	T	**	Not displayed	Not displayed
T	0	1	1	T	Not displayed	**	**
T	0	1	0	T	Not displayed	**	Not displayed
T	0	0	1	T	Not displayed	Not displayed	**

WAVE FORM

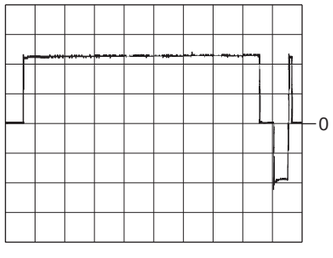
① IC201 ㉘ (IN6-R)
② IC201 ㉙ (IN6-F)

VOLT/DIV: 500mV
TIME/DIV: 200mS



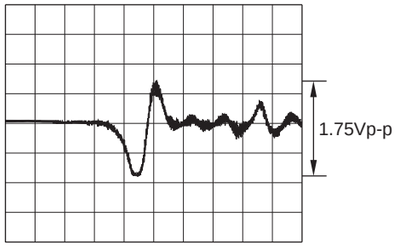
③ Between CN202 ① and ②
(② Pin: 0 Level)

VOLT/DIV: 1V
TIME/DIV: 200mS



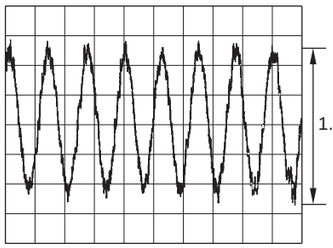
④ IC101 ⑮ (FE)

VOLT/DIV: 500mV
TIME/DIV: 2mS



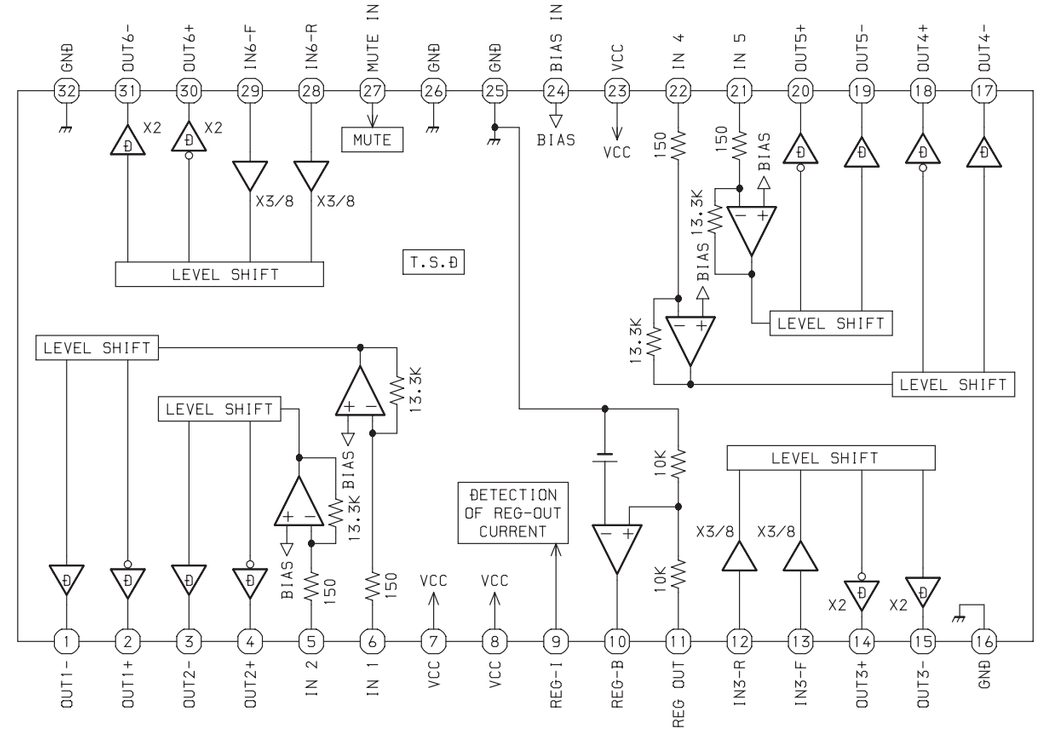
⑤ IC101 ⑯ (TE)

VOLT/DIV: 200mV
TIME/DIV: 200µS

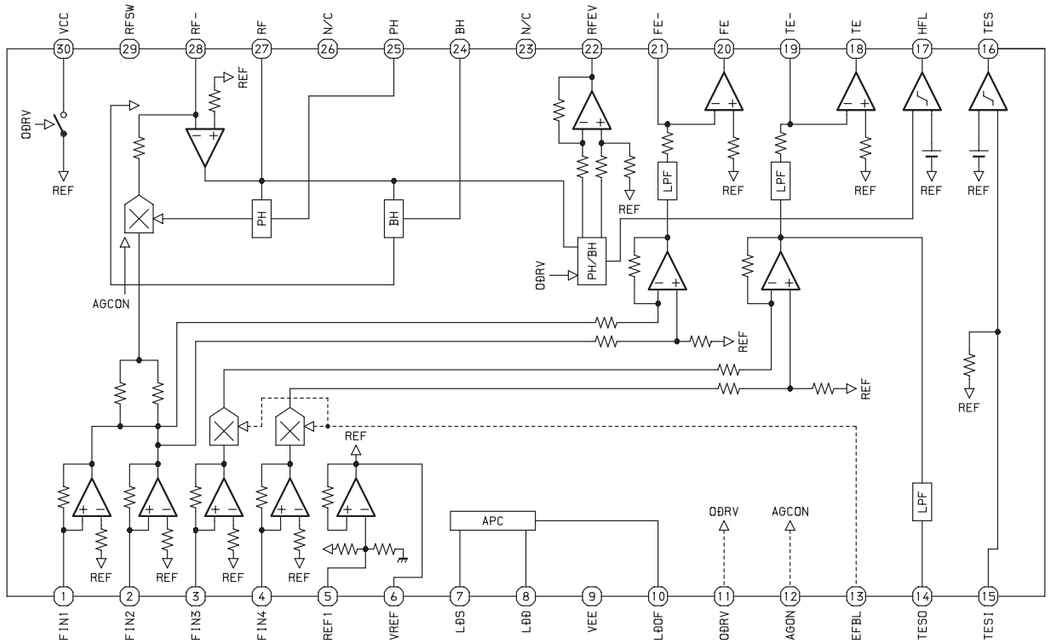


IC BLOCK DIAGRAM

IC, BA5927S



IC, LA9235M



IC DESCRIPTION

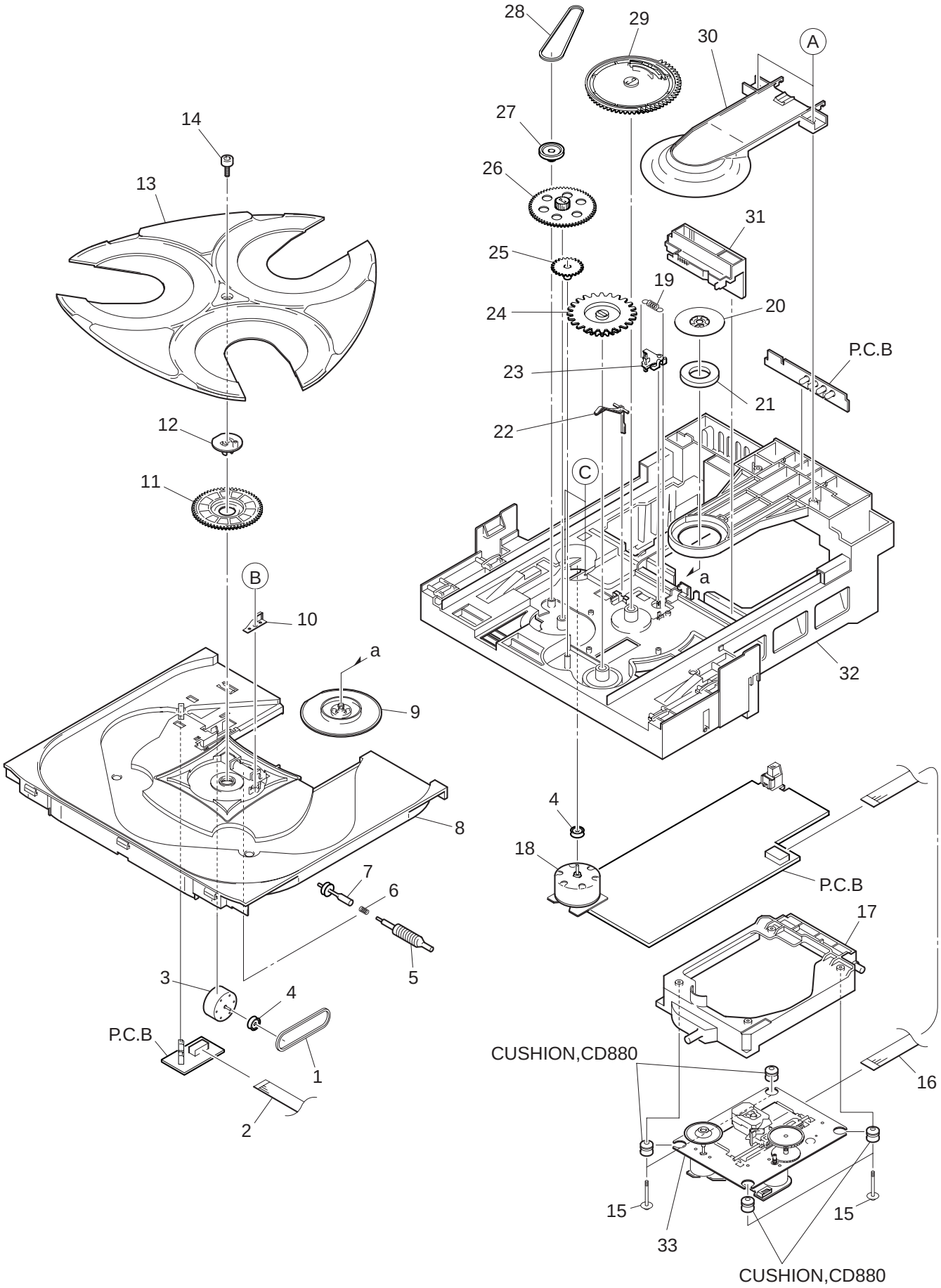
IC, LC78641E

Pin No.	Pin Name	I/O	Description
1	PDO1	O	Internal VCO control phase comparator output pin. (Pull down)
2	PDO2	O	Internal VCO control phase comparator output pin. OFF for rough servo, ON for phase servo. (Pull down)
3	VVSS	—	Internal VCO ground pin.
4	PCKIST	—	PDO output current adjustment resistor connection pin.
5	VVDD	—	Internal VCO power supply pin.
6	FR	—	VCO frequency range adjustment resistor connection pin. (Pull up)
7	HFL	I	Mirror detection signal input pin.
8	SLCIST	—	SLCO output current adjustment resistor connection pin.
9	SLCO	O	Control output.
10	EFMIN	I	EFM signal input pin.
11	JITTV	O	Jitter detection monitor pin.
12	JITTC	O	Jitter detection adjustment pin. (Pull down)
13	BH	I	BH signal input pin. (Connected to GND)
14	PH (RFENV)	I	PH signal or RFENV signal input pin.
15	FE	I	FE signal input pin.
16	TE	I	TE signal input pin.
17	VREF	I	VREF input pin.
18	ADAVDD	—	Servo A/D, D/A power supply pin.
19	ADAVSS	—	Servo A/D, D/A ground pin.
20	PHREF	O	PH reference output pin. (Not connected)
21	BHREF	O	BH reference output pin. (Not connected)
22	TBLO	O	Tracking balance output pin.
23	TDO	O	Tracking control output pin.
24	FDO	O	Focus control output pin.
25	SPDO	O	Spindle control output pin.
26	SLDO	O	Thread control output pin.
27	DVREF/FG	I/O	Output driver VREF output pin. FG signal input pin. (Connected to GND)
28	LASER	O	Laser ON/OFF control pin.
29	CONT1	I/O	General-purpose input/output pin 1. (Connected to GND)
30	CONT2	I/O	General-purpose input/output pin 2. (Connected to GND)
31	CONT3	I/O	General-purpose input/output pin 3. (Connected to GND)
32	CONT4	I/O	General-purpose input/output pin 4.
33	CONT5	I/O	General-purpose input/output pin 5. (Not connected)
34	PCK	O	EFM data playback clock monitor pin. Average 4.3218MHz when the phase is locked. (Not connected)
35	C2F	O	C2 flag output pin. (Not connected)
36	VDD	—	Digital power supply pin.
37	DOUT	O	Digital out output pin. (EIAJ format)
38	FSX	O	Output pin for the 7.35kHz synchronization signal divided from the crystal oscillator. (Not connected)

Pin No.	Pin Name	I/O	Description
39	EFLG	O	C1, C2 error correction monitor pin. (Not connected)
40	TEST	I	Test input pin. (Connected to GND)
41	EMPH	I/O	Emphasis pin. Which becomes an input pin after reset and can be controlled externally. This becomes an emphasis monitor pin under control by command. (Not connected)
42	MUTEL	O	L channel mute output pin. (Not connected)
43	MUTER	O	R channel mute output pin. (Not connected)
44	LVDD	—	L channel power supply pin.
45	LCHO	O	L channel output pin.
46	LVSS	—	L channel ground pin.
47	RVSS	—	R channel ground pin.
48	RCHO	O	R channel output pin.
49	RVDD	—	R channel power supply pin.
50	XVDD	—	Crystal oscillator power supply pin.
51	XIN	I	Connections for a 16.9344MHz crystal oscillator pin.
52	XOUT	O	
53	XVSS	—	Crystal oscillator ground pin.
54	ASLRCK	I	L/R clock input pin. (Connected to GND)
55	ASDACK	I	Bit clock input pin. (Connected to GND)
56	ASDFIN	I	L/R channel data input pin. (Connected to GND)
57	LRSY	O	L/R clock output pin. (Not connected)
58	DATACK	O	Bit clock output pin. (Not connected)
59	DATA	O	L/R channel data output pin. (Not connected)
60	16M	O	16.9344MHz output pin. (Not connected)
61	SFSY	O	Subcode frame synchronization signal output pin. This signal falls when the subcode is in the standby state. (Not connected)
62	SBSY	O	Subcode clock synchronization signal output pin. (Not connected)
63	PW	O	Subcode P, Q, R, S, T, U and W output pin. (Not connected)
64	SBCK	I	Subcode readout clock input pin. (Connected to GND)
65	CE	I	Chip enable signal input pin.
66	CL	I	Data transfer clock input pin.
67	DI	I	Data input pin.
68	DO	O	Data output pin.
69	INT	O	Interruption signal output pin. (Not connected)
70	WRQ	O	Interruption signal output pin.
71	RES	I	Reset input pin. This pin must be set low briefly after power is first applied.
72	DRF	O	Focus ON detect pin.
73	VDD5V	—	Microprocessor interface power supply.
74	VSS	—	Digital ground pin.
75	CONT6	I/O	General-purpose input/output pin 6.
76	CONT7	I/O	General-purpose input/output pin 7.
77	V/P	O	Rough servo/phase control automatic switching monitor output pin. “H” for rough servo and “L” for phase servo. (Not connected)

Pin No.	Pin Name	I/O	Description
78	FSEQ	O	Synchronization signal detection output pin. Outputs a high level when the synchronization signal detected from the EFM signal and the internally generated synchronization signal agree. (Not connected)
79	DEFECT	I/O	Defect pin. Which becomes an input pin after reset and can be controlled externally. This becomes the defect monitor pin under control by command. (Not connected)
80	EFMO	O	EFM signal output pin. (Not connected)

MECHANICAL EXPLODED VIEW 1/1



MECHANICAL PARTS LIST 1/1

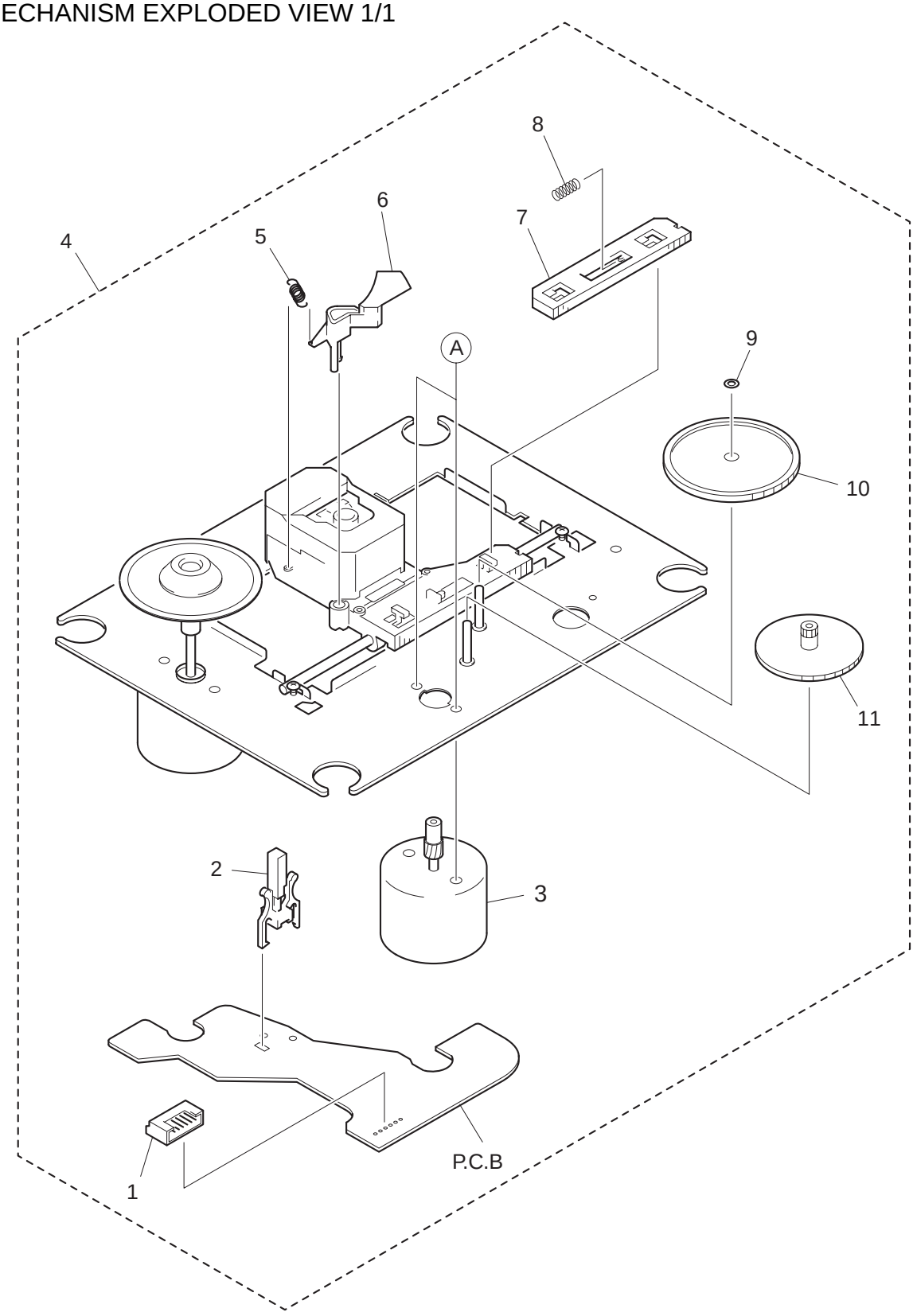
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	84-ZG1-225-010		BELT,SQ1.0-63.3
2	84-ZG1-673-010		F-CABLE,5P 1.25 210MM BLACK N <EXCEPT ZD8RN1DM,ZD8RNDM>
2	84-ZG1-672-010		F-CABLE,5P 1.25 210MM WHITE N <ZD8RN1DM,ZD8RNDM>
3	87-045-364-010		MOTOR(BCH3B14)
4	84-ZG1-267-010		PULLEY,LOAD MO 8 <EXCEPT YKZD8RDF,ZD8RD>
4	81-ZG1-212-010		PULLY,LOAD MO<YKZD8RDF,ZD8RD>
5	84-ZG1-238-010		GEAR,WORM N
6	84-ZG1-248-010		SPR-C,WORM
7	84-ZG1-239-210		PULLY,WORM N
8	84-ZG1-008-210		TRAY,NO3<ZD8RD>
8	8A-ZG1-001-010		TRAY,NO3 BLU<EXCEPT ZD8RD>
9	8A-ZG1-210-010		HLDR,MAGNET 23<YKZD8RDF>
9	84-ZG1-243-210		HLDR,MAGNET N(J) <YZD8RDJM,ZD8RMDJM,YZD8RMDJM>
9	84-ZG1-289-010		HLDR,MAGNET NAT<ZD8RNDM>
9	81-ZG1-277-310		HLDR,MAGNET N <ZD8RN1DM,ZD8RDM,YZD8RDM,ZD8RD>
10	84-ZG1-259-010		SPR-P,WORM
11	84-ZG1-221-010		GEAR,MAIN TT<YKZD8RDF>
11	84-ZG1-269-010		GEAR,MAIN TT 4<EXCEPT YKZD8RDF>
12	84-ZG1-224-010		LEVER,TT<EXCEPT ZD8RNDM>
12	84-ZG1-288-010		LEVER,TT NAT<ZD8RNDM>
13	8A-ZG1-002-010		TURN TABLE,NO1 BLU<EXCEPT ZD8RD>
13	84-ZG1-005-210		TURNTABLE,NO1(*)<ZD8RD>
14	81-ZG1-239-010		S-SCREW,TT
15	8A-ZG1-201-010		S-SCREW,MECH 880
16	85-NFT-611-110		FF-CABLE 16P-1.0
17	84-ZG1-299-210		HLDR,MECHA NO3<EXCEPT ZD8RNDM>
17	8A-ZG1-203-010		HLDR,MECHA NO3 NAT<ZD8RNDM>
18	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)
19	84-ZG1-211-010		SPR-E CAM S
20	84-ZG1-285-010		PLATE,MAGNET BLK<ZD8RN1DM>
20	81-ZG1-255-110		PLATE,MAGNET MK2<EXCEPT ZD8RN1DM>
21	83-ZG3-604-010		RING,MAG 2
22	83-ZG3-213-010		LVR,SW
23	84-ZG1-208-210		LEVER,CAM<YKZD8RDF>
23	84-ZG1-266-010		LEVER,CAN 8<EXCEPT YKZD8RDF>
24	84-ZG1-205-210		GEAR,TRAY (*)
25	81-ZG1-291-110		GEAR,TRAY RELAY NO3
26	84-ZG1-206-110		GEAR,RELAY<YKZD8RDF>
26	84-ZG1-274-010		GEAR,RELAY 8<EXCEPT YKZD8RDF>
27	84-ZG1-207-010		PULLEY,RELAY
28	84-ZG1-209-010		BELT,SQ1.8-117.7
29	84-ZG1-203-410		GEAR,MAIN CAM<ZD8RNDM>
29	84-ZG1-215-410		GEAR,MAIN CAM BLU<EXCEPT ZD8RNDM>
30	84-ZG1-011-010		REFLECTOR,CD <EXCEPT ZD8RN1DM,ZD8RNDM>
31	84-ZG1-216-310		SLIDE,MECHA CAM YEL <EXCEPT ZD8RNDM>
31	84-ZG1-204-310		SLIDER,MECHA CAM<ZD8RNDM>
32	84-ZG1-286-010		CHAS,MECHA NAT<ZD8RNDM>
32	84-ZG1-201-410		CHAS,MECHA<EXCEPT ZD8RNDM>
33	M8-ZZK-C90-070		KSM-880CAB
A	87-067-703-010		TAPPING SCREW, BVT2+3-10 <EXCEPT ZD8RN1DM,ZD8RNDM>
B	87-067-981-010		BVT2+3-6 BLK
C	87-251-070-410		U+2.6-3

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange		

CD MECHANISM EXPLODED VIEW 1/1



CD MECHANISM PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	91-564-722-110		CONN,PIN 6P
2	91-572-085-110		LEAF SWITCH
3	9X-264-655-010		SL MOTORR ASSY
4	M8-ZZK-C90-070		KSM-880CAB
5	92-647-416-020		SPRING EXTENSION
6	92-647-595-020		SHUTTER B
7	92-647-732-010		NS SLIDE RACK
8	92-647-742-010		SPRING COMPRESSION
9	93-321-813-110		POLI WASHER
10	92-647-407-010		GEAR A
11	92-647-408-020		GEAR B
A	93-713-786-510		SCREW,+P2-3

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

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